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Illustrations OF HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

KING'S COLLEGE HOSPITAL.

REMOVAL OF A MALIGNANT TUMOUR FROM THE TIBIA: TETANUS: RECOVERY UNDER THE USE OF NARCOTICS AND PURGATIVES.

Under the care of W. FERGUSSON, Esq.

[*From Notes by* P. W. SWAIN, ESQ., *House-Surgeon.*]

G. H., aged 20, an agricultural labourer, was admitted on July 24th, under the care of Mr. Fergusson, on account of a large tumour on the right tibia. This tumour was globular, of a firm consistence, and of considerable size, and was firmly attached to the subcutaneous surface of the bone, winding round towards its back part. It had been growing for nine months, without any obvious cause; it was not very painful, but was covered by a number of large veins.

On August 1st Mr. Fergusson proceeded to expose the tumour by an incision. Having continued the incision through it, and finding the tibia of its natural consistence, and the base of the growth accessible, he thought it fair to give the patient the chance of the minor operation of excision before resorting to amputation. The knife and bone-forceps were used to cut through the base of the growth; and on its removal a healthy surface of bone was exposed. The tumour was thought, both from its external appearance, and from a careful microscopic examination which was made by Mr. Hulke, to be of a medullary character: it had its origin in the periosteum.

The man went on without any alarming symptoms until August 20th, when he complained of stiff neck, and thought he had caught cold. He was ordered some Dover's powder, and mustard poultice. Next day the stiffness was not relieved, and he had great difficulty in opening his mouth.

℞ Pilulæ colocynthidis comp. gr. x; olei tiglii ♏ ij. M. Fiant pilulæ ij statim sumendæ.

℞ Pulveris opii gr. i; extracti hyoscyami gr. ij. M. Fiat pilula 6tis horis sumenda.

August 22nd. His manner was nervous and restless. Pulse 124. He could open his mouth only about a quarter of an inch; he bit his tongue once or twice during the night. The bowels had been opened by the croton oil. A liniment of soap and chloroform was ordered to the spine.

August 23rd. He had occasional spasms of the legs, and had great difficulty in swallowing.

For the next week the symptoms continued much the same; the chloroform liniment was applied so as to produce slight irritation of the skin, and the bowels were kept freely open with croton oil, colocynth, turpentine, etc. He slept well, but there was no improvement in the movement of the jaws or power of swallowing. The left leg was continually rigid; the right was flaccid. There were twitchings of the face, and great rigidity of the abdominal muscles.

August 30th. The left lower extremity was still very rigid, the rigidity commencing just below the groin; and the other symptoms continued unrelieved. He was ordered to have a liniment of equal parts of soap liniment and chloroform.

℞ Quinæ disulphatis gr. iij; acidi sulphurici dil. ♏ v.; liquoris morphiæ hydrochloratis ʒss*. M. Fiat haustus 6tis horis sumendus.

An enema of castor oil was also ordered.

He commenced to improve, and went on improving for the next three days.

September 4th. He could open his mouth one inch; his neck was not so stiff as before; there were no twitchings of the face; the muscles were not so rigid; those of the leg not at all so; and there was no recurrence of the spasms.

September 10th. The tetanus had entirely disappeared, leaving only a certain amount of weakness.

The morbid growth, however, is reappearing in the wound. To this Dr. Fell's paste is being applied.

REMARKS. We gave in a recent number (JOURNAL, p. 747) the notes of a case of tetanus, in which the patient lived so much beyond the usual time that it was hoped that he might recover. This was under the antiphlogistic treatment; viz., active purgatives and blood-letting. In that case, however, general symptoms of acute inflammation were present which were wanting in the one before us, and the indications to be followed were therefore quite different. In fact it seems unreasonable to talk, as is generally done, of tetanus as if it were really a substantive disease. Tetanus, on the contrary, is only one form of spinal convulsions, and may be symptomatic of as many different and opposite states of the spinal cord and the blood which supplies it, as cerebral convulsions are known to be in regard to the brain. Hence it seems unlikely, *à priori*, that one plan of treatment should be applicable to all cases; nor are we to wonder that patients recover under all plans. In this case, although purgatives were freely employed, the greatest reliance was placed on narcotics, opium, morphia, etc., and the local use of chloroform was thought to have produced benefit. There is all reasonable ground for attributing the recovery to the treatment, as the symptoms seemed always relieved by the use of the remedies; and the recovery went hand in hand with the establishment of their full action.

ST. GEORGE'S HOSPITAL.

EFFUSION OF BLOOD INTO THE CAVITY OF THE ARACHNOID: DIFFICULTY IN DETERMINING WHETHER THIS WAS THE RESULT OF VIOLENCE OR OF DISEASE.

Under the care of H. W. FULLER, M.D.

[*From the Hospital Case-book.*]

MARY M., a married woman, aged 32, was admitted on August 29th, under the care of Dr. Fuller. All that was ascertained at the time of her admission was that she had been ill about twelve days; that the illness commenced with "a fit" of some kind; and that, since "the fit", she had been almost entirely unconscious. It was, however, asserted that she had received a blow; but no history of this accident could be obtained. On admission, it was seen that the right arm was paralysed. The right pupil was much larger than the left. There were slight marks of ecchymosis on the right side of the face, near the eye. She was almost entirely unconscious, but could be made to put out her tongue by speaking loudly. She was purged with calomel and jalap; a large blister was put on the nape of the neck; and a mixture containing aloes, tincture of cantharides, nitre, and acetate of potash, was given three times a day. Next day the left arm was found to be paralysed, while it was stated that the patient could adjust the bedclothes with the right. Eight leeches were now applied around the right eye, and blisters behind the ears. The comatose condition continued, and she died in the evening.

On *post mortem* examination, fourteen hours after death, no marks of violence were observed externally. The skull-cup was thick and dense. On removing it, the dura mater was seen raised up on the right side by an enormous effusion of blood into the arachnoid cavity. This effusion was strictly

* One drachm of this solution contains gr. i of hydrochlor ate of morphia.

limited to that side of the head; it extended into the base, and covered the whole hemisphere. The blood was partly fluid, partly clotted, and adherent pretty firmly to the parietal arachnoid; but none was decolorised. The source of this hæmorrhage remained obscure. The vessels of the brain, both at the base and vertex, seemed quite healthy. Most of the branches, of any considerable size, were followed as far as possible; but no lesion was seen. The capillaries of the pia mater were examined microscopically, but were found quite healthy. The substance of the brain was healthy, and quite free from ecchymosis. The convolutions on the opposite (left) side were flattened, and the cerebral substance pale. On section, the left lateral ventricle was found much enlarged, and distended with clear serum. The right lateral ventricle was nearly obliterated by the pressure from without, the central bodies being brought nearly into contact with the septum. The latter also was displaced, and pushed considerably over beyond the middle line. The central parts of the brain were healthy. Some vascularity was noticed in the scalp on the right side, but no trace of injury to either the soft parts or bones was found, though carefully looked for.

Remarks. The above case is an extreme instance of the difficulty sometimes experienced in distinguishing cerebral hæmorrhage, the result of injury, from that which follows disease. Of this we gave an instance some time ago, in a case which occurred at St. Bartholomew's, where there were no external signs of injury, and (whether from accident or design) no history was forthcoming. There, however, the dissection clearly proved the nature of the case, inasmuch as it revealed the existence of a fracture of the skull lacerating the meningeal artery (Journal, p. 407). Here matters stood on a very different footing. The history given was very imperfect, and, there was good reason for believing, was intentionally false; for it seemed, from the report which was afterwards given at the Hospital by a gentleman who had been called in to attend the unfortunate woman at the first onset of the symptoms, and who appeared to have given great attention to the case, that the patient was seen quite well just before a quarrel which she had with her husband, in which the latter confessed that he had struck her, but asserted that she was drunk at the time. After this he went out, and left her locked up in her room, where she was found by some neighbours (whose suspicions were aroused, and who forced an entrance, many hours later) almost entirely insensible (in fact, much in the same state of semi-consciousness in which she remained up to the time of death), and with an extensive bruise on the right side of the face—the same side on which the paralysis was afterwards found to exist. All these facts were consonant with what was observed afterwards by the medical attendant, and rendered it highly probable, to say the least, that the appearances were due to violence. Assuming this to have been the case, the lesion was a very rare one, viz., the rupture of some considerable vessel in the pia mater (for there is little doubt that some large trunk must have been opened, from the entire absence of any sign of bruising), without any injury to the bones or to the cerebral substance. It is true that the other hypothesis—viz., that the effusion was the result of disease—presents almost as great difficulties, seeing that every artery which was seen was perfectly sound and healthy, that the brain was quite unaffected, and that there was no visceral disease in any part of the body which could have interfered with the cerebral circulation. No coroner's inquest was held at the time, as the suspicious circumstances did not come out till after the removal of the body from the Hospital; and, though the exhumation of the body was spoken of (for the case created much excitement in the neighbourhood in which it occurred), it seemed so little likely that this proceeding would throw any light upon the case, that the coroner declined to order it. In fact, the obscurities in the history were sufficient, as it would appear, to preclude all hope of arriving at any conclusion as to the cause of the lesion, even allowing that it could be proved to be of traumatic origin; for the man's confession that he gave her a slight blow could not be used to prove more than this against him. Now, no one could take upon him to say that such a blow would be likely to cause the injury above described; while, if the woman had been left by herself for some hours in a state of intoxication and excitement, she might easily have injured herself accidentally. As the case excited a good deal of attention, and is interesting in a medico-legal point of view, it seemed worth while to lay it before our readers at some length.

ST. MARY'S HOSPITAL.

COMPOUND FRACTURE OF THE FRONTAL BONE: LATENT PYÆMIA.

Under the care of S. Lane, Esq.

[*From Notes by* E. A. Hart, Esq., *House Surgeon.*]

Arthur J., aged 52, presented himself on August 19th, at the out-patients' room of St. Mary's Hospital, on account of an accident in which he had been kicked in the face by a horse, and suffered a compound fracture of the frontal bone forming the roof of the right orbit. He had been stunned for a few minutes. On examination, a small irregular wound was found near the root of the nose on that side, leading to a comminuted fracture at the inner side of the roof of the orbit. There were three loose portions of bone; two of which, as they were detached from all connexion with the deeper parts, were removed; but the third remained attached on its upper or deep surface, and was therefore left. The man appeared to suffer little inconvenience from the accident, was quite collected and cheerful, had walked into the Hospital, and insisted on walking home again to provide himself with the things necessary for his stay in the Hospital. It was impossible to prevent his doing this. In due course he returned, and for the first two days everything went on well. The wound, under simple treatment, quite healed, leaving only a little œdema over the seat of fracture; he complained of no pain in the head, and seemed to be almost recovered.

On the 8th day he began to complain of pain in the calf of the right leg, where however there was no external appearance of injury or inflammation. No symptoms had preceded this except wandering pains in the head and arm. He had been put on a very mild course of mercury, and had presented no head symptoms.

On the 11th day, pain was complained of in the right knee. He began to sink into a semicomatose state, and died rather suddenly in the morning of September 5th.

Post mortem examination showed the presence of pyæmia, pus being found both in the calf and knee-joint.

Remarks. The principal interest connected with this case was in the singular course which the blood disease followed. It used to be taught that the occurrence of pyæmia was indicated by a certain change in the granulations or secretions of the wound, which was to present a grayish colour, with receding granulations, imperfectly formed or suppressed discharge, etc. More extended observation has shown that this sign is little to be relied on; but it is rare to notice the occurrence of pyæmia attended with such very obscure and doubtful symptoms, and not pronounced until the wound has healed and suppuration from it has some time ceased.

ST. BARTHOLOMEW'S HOSPITAL.

SPONTANEOUS DISLOCATION OF BOTH HIPS AFTER FEVER, WITHOUT DISEASE OF THE BONES.

Under the care of W. Lawrence, Esq.

[*From Notes by* W. Chippendale, Esq., *House-Surgeon.*]

Martha M., a child, aged 12, was admitted on May 24th, under the care of Mr. Lawrence, in a very feeble state from fever. After six weeks stay in the Hospital, the head of the left femur was found to be dislocated. It was immediately reduced under chloroform without difficulty, and a straight splint was applied for one month; but on removing it, the head of the bone was found again on the dorsum ilii. It was again reduced, and the long splint applied. Six weeks after she left, the head of the right was found to have escaped from the acetabulum and to be on the dorsum ilii. This was treated in the same way, but the dislocations recurred, and both capita femoris remained dislocated on the dorsum of the bone.

Remarks. We adduce this case as an example of relaxation of the ligaments of a large joint, to such an extent as to permit the luxation of its articulating surfaces, from simple weakness, the result of exhausting disease, analogous to those displacements of the vertebræ which occur from a similar cause in persons of relaxed fibre. The case is the only one of the kind which we remember to have met with in the hip-joint, and may deserve a place as illustrating the pathology of affections of the joints.

Original Communications.

ON INTRAUTERINE FRACTURES: WITH AN ILLUSTRATIVE CASE.

By T. Herbert Barker, M.D., F.R.C.S., Bedford.

[*Read before the South Midland Branch, May 21st, 1857.*]

[*Concluded from page 809.*]

Cause of Intrauterine Fractures. It will have been remarked, that in the majority of the cases described in the preceding part of this paper, the fractured condition of the fœtal bones was attributed to some kind of injury inflicted on the abdomen of the mother in the latter months of pregnancy. This observation, while it deserves to be remembered, does not claim such serious consideration as a cause of the accident to the child, as might at first sight be supposed. When, as practitioners of midwifery, we recall the many instances in which labour occurs after such accidents; when we consider what an enormous and often irregular pressure is exerted on the fœtal bones with impunity during even natural labour; and when we further recollect the almost incredible force that may sometimes be employed in unnatural labour, without injury to the osseous framework of the infant, we must in a measure exclude the idea of fracture while the child is enclosed in the uterus and surrounded by the amniotic fluid. Yet that a blow on the abdomen may affect the child, has been argued for, on the ground that wounds of the skin of the fœtus have been met with, resulting apparently from a fall on the abdomen by the mother during the last weeks of pregnancy. In Dr. Richardson's MS. Fothergillian Essay, already referred to, there is the history of a case reported to the Royal Medical and Chirurgical Society by Mr. Jones. The labour in this instance was easy: the pelvis was large. The mother had fallen down a few weeks before delivery. On the back of the fœtus there existed an extensive wound, reaching from the third dorsal vertebra, across the scapula, and along the back of the humerus, to within an inch of the elbow. Part of this wound was cicatrised; the other half was granulating. Here the occurrence of the wound, antecedently to the birth of the child, was fully demonstrated; and its connexion with the fall, to which the mother had been subjected, was thus rendered probable.

Dr. R. U. West, of Alford, in writing to me on this subject, says he cannot at all see how the bones of the fœtus can be fractured before birth by a fall of the mother. I confess myself to the same difficulty. Whatever force should convey to the fœtus such a blow as would fracture its bones, must be conveyed through the uterus itself, and should consequently injure that organ primarily; yet, in the cases described, we have the most marked absence of all evidence which would indicate any uterine injury whatever. It seems feasible, however, that in some few cases the fractures occurred after extreme violence to the mother. The cases recorded by Dr. Montgomery, and before referred to, appear to have been of this kind.

Again, it must always be remembered that the bones are by natural composition less liable to fracture during fœtal life than at any other period. There is at this time less of earthy and more of organic matter. Hence, such bones are supple; they bend easily under the pressure incident to delivery; they scarcely admit of being broken. With these facts before us, we must, therefore, be exceedingly cautious in supposing that an accident to the pregnant mother can alone give rise to fracture of the fœtal bones. The accident of a fall on the abdomen may be a coincidence; it may be a favouring circumstance; but it can never account for the injury in full.

Some instances have been noted in which certain peculiar injuries have been inflicted on the limbs of the child by the umbilical cord. Dr. Montgomery *(op. cit.)* and Professor Simpson attribute amputation of the limbs *in utero*, to the pressure exerted on the limbs either by the cord or by plastic bands. In the case of fracture of a single limb with a band or a fold of the cord surrounding the fractured part, and giving evidence of pressure on the soft parts, it might be fair to attribute the division of bone to the local effect. But when many bones are broken, and the soft parts are entire, this view is excluded from the field of argument.

In speaking on the general question of fracture of the fœtal bones, Billard lays great stress on the statement, that a division of the long bones, which might easily be mistaken for fracture, may be in some cases nothing more than arrest of ossification of the ossifying cartilages. Dr. West, in his letter to me, suggests with great acuteness, that the case I have described was possibly of this character; and asks:—Are the fractures dependent on arrest of development and on the deficiency of animal matter at special points? The answer to this question suggests in part, and it may be altogether, the nature of the case before us.

On examining the bones of the fœtus, to which I have especially drawn attention, it was plain that while there was an absence of development in the superficial cranial bones, there was nothing in the condition of the long bones to lead to that view of Billard, which would attribute the divisions met with to a mere arrest of ossification in the cartilages. We cannot look at this bone structure, as displayed in the specimens before us, without seeing distinctly that the fractures are complete, and that at the part where the breakage occurs, the ossific development, in the form of earthy material, is even more strongly marked out than in the extremities of the bone, which are indeed solely cartilaginous. We must then set down the predisposing cause of fracture as connected with an irregular as well as an imperfect development of the osseous structure.

Now, the question arises, what is the form of bone-disease here present? Is it what is commonly called rachitis? Is it what is known under the name of fragilitas ossium? The first named disorder is the one common to infancy, and depends upon a supposed deficiency of earthy matter; the second is a disease of adult life, and depends on a supposed increase of earthy material. I say *supposed* decrease and *supposed* increased proportion of earthy materials; because these specific variations in the constitution of bone, as marking specific forms of disease, are based on most uncertain data. On these points I would direct the attention of the society to Mr. Porter's valuable paper on the Pathology of Bone, in Todd's *Cyclopædia of Anatomy;* and to the section on the osseous system, in Lehmann's *Pathological Chemistry.*

If I might offer a theory on the state of the bones in the case I have narrated, I should infer that the inequality in the deposition of earthy matters, and the disproportion in construction between the organic and the inorganic parts, was the main predisposing cause of the fractures. In the nodulated parts, there is an increase of earthy deposit; in the constricted parts, the bone was formed, but was too feeble to bear the pressure to which it was subjected. This is the only reasonable supposition; because, as I have shown, there was an abnormal proportion of organic matter in these bones, taken as a whole.

The connexion or disconnection of the fragility and abnormal development of bone with the health of the parents, is another matter of prime importance. In this case, I could not detect the slightest hereditary fault. Dr. Montgomery refers to an observation of Jörg's, in which it is argued that the bones of the fœtus may be fragile without any special cause.

But, waiving this important point, which can only be fully elucidated by the labours of many inquirers and the lapse of many long days, and proposing a supposition which admits of no denial, that the bones of this fœtus were in a condition so fragile that the merest force could break them,—we have to consider what force did break them, and when they were broken. From the fact that, in one instance, there was an attempt at reparation, it is clear that some of the fractures occurred long previously to labour. Were the fractures thus produced the result of the fall which the mother experienced? or were they the effect of muscular movements on the part of the child? I would answer this query by saying that, while the fall might, by some inexplicable reason, be the cause of the fractures, the muscular actions natural to the child were quite competent for the purpose; and that, as the fractures seem obviously to have occurred at various times, and as they are in the bones on which the muscles would exert most force, the latter cause is by far the most consistent with all the facts of the case.

Practical Deductions. From the consideration of the obscure and difficult topics named above, let me now proceed to

the facts of this case—first, with reference to labour; and secondly, with reference to medico-legal investigations. In these particulars, the case is of direct importance to the working practitioner.

The absence of bone in the superior part of the cranium rendered the nature of the presentation obscure for a short time. Fortunately, I found the membranes presenting in the first instance, and, having ruptured them, was aware that the next structure that met the touch was not the membranous bag containing the amniotic fluid. In a careless practice, or even without carelessness, one might, however, be led to mistake a soft fluid bag of this kind for the membranes, and to rupture it accordingly. Dr. Richardson, indeed, gives a case in point, where, either from a deficiency of bone, or from enlargement of the fontanelle, the tumour presenting was punctured with the finger, and a mass of fluid half-putrid brain-stuff escaped with the liquor amnii. He thus observes in a foot-note in his MS. Fothergillian essay:—

"The case described fixed itself particularly on my mind, from a circumstance connected with it in the course of the labour. When called to see the woman, the labour pains being violent, I felt the membranes in the vagina very much distended, and I proceeded to rupture them. The thickness of the supposed membranes surprised me; and the fluid that escaped was so thick and purulent looking, that my surprise was increased. After birth, I found that, in penetrating the membranes, I had also penetrated the head through a distended fontanelle, or a deficiently developed osseous covering. As the fœtus was and had long been dead in this case, the act was harmless; but it might have been otherwise, and the circumstance furnishes an obstetric lesson worthy of being recorded." (p. 76.)

There are other presentations, with which the one I have described might also be confounded. The breech could scarcely be mistaken for it; at all events, not for any length of time, or after very careful examination. It might, however, be confounded with placental presentation by an inexperienced accoucheur; for the sensation conveyed to the finger by a head without bones or fontanelles is not altogether unlike that produced by the placental organ. A skilful tactician would detect the difference in the roundness of the tumour formed by the head, in its elasticity, as well as by the connexion which would be traceable between the mass presenting and the orifice of the uterus, to say nothing of the signs of hæmorrhage which would be likely to manifest themselves in the case of placenta prævia, and not to manifest themselves in the other case.

It would be much more difficult to distinguish by vaginal examination a head without its bones, from a head having upon it a large soft tumour or a hernia cerebri. It might be very difficult to distinguish it at first from a hydrocephalic head where the fontanelles are largely distended. In all these cases, the progress of the labour would reveal the characteristic evidence.

The child I have described died soon after its birth. It had lived in the uterus with its fractured limbs; its viscera were all perfect; and other children have lived after delivery with fractured limbs. Two reasons occur to me why death took place so rapidly; and these reasons are disconnected with the fracture of the long bones. The most likely cause of death is the compression that must have been exerted on the unprotected brain during the parturition. The second is, that, from the condition of the ribs, and the fractured state of the bones into which some of the external chest-muscles are inserted, the act of respiration was never properly established. Whether, had life continued, the bones would have reunited, and the ossification would have become normal under a new food regimen, is a question only second in difficulty to that which relates to that physiological modification in the nourishment of the fœtus *in utero*, upon which the abnormal construction of the bones depended.

It is not very probable that cases of the description I have given would offer any marked difficulties in the progress of delivery. The non-resistance of the bones would, in fact, be favourable, rather than not, to the parturient act. But a case might occur, in the range of possibility, where the bones, being in a brittle condition, but not broken previously to labour, might, during a severe labour, and during the extraction of a child with instruments, become fractured, and cause the practitioner much anxiety and annoyance. It might, for instance, be urged against him that he had acted unskilfully, or had used too much force, and by so doing had inflicted injuries on the child sufficient to produce death. In such a dilemma the recollection of but one instance resembling the one I have related, will always be satisfactory, and will lead to the careful examination of the bones themselves, and the discovery of their condition.

But the great practical importance of these cases is to be found in a medico-legal point of view. Here they assume a position which cannot well be over estimated. A child is born; it has been heard to cry, or seen to breathe. The *post mortem* evidence is in proof of such child having breathed; the lungs show evidence of having been inflated; the circulatory apparatus gives signs that a free pulmonic circuit has been made. The thoracic and abdominal viscera are all perfect. The muscular structures are well nourished, but the bones *are fractured*. There are a variety of circumstances which might lead to the supposition that in such a case the mischief had occurred after birth, and had been due to violence intentionally applied. To the best of my knowledge, no such case has occurred; but in the event of the occurrence of an example of the kind, the possibility of intrauterine fracture should always be considered. It should be remembered, moreover, that the child may live a long time after birth, notwithstanding the existence of fracture; during this time modifications in the constitution of the bones might arise, so that the general brittleness of the bones might have become less, and might thus complicate the inquiry. However, with the facts now presented before the mind, it is clearly the duty of every medico-legal inquirer, in the event of injury to the bones of a still-born or living-born child, never to give a syllable of evidence until he has fully examined all the bones of the body; first, in reference to their physical strength; secondly, in regard to the osseous development and the union of bone and cartilage; thirdly, in respect to the presence or absence of certain bones; fourthly, in inquiry as to the existence of evidence, whether there had been fracture and reunion of bone; fifthly, as to the character of the fracture itself; sixthly, in relation to the presence or absence of external injury; and, seventhly, in relation to the contour of the bones and limbs generally. If in any given case it should be detected that the bones were preternaturally brittle,—or that there was arrest of osseous development,—or an absence of bone,—or sign of preexisting fracture,—or want of traces of external injury,—or, lastly, distinct twist or abnormal contour,—in the event of finding any of these peculiarities, I repeat, there would be strong grounds for assuming that the fracture had been intrauterine, and for considering it apart from the idea of the application of any external violence.

Again, a case might perchance arise in which, owing to congenital deficiency, a bone entire at the moment of birth should become fractured after birth from the merest and most unexpected accident. The muscular movements of the child itself, a sudden jerk, the putting on of its dress, a carelessness in nursing, a slight degree of pressure in bed, and so on, might lead to the accident of fracture. In such an example the child might not die, and the possibility of examining the condition of the bone would be, consequently, shut out. Here, therefore, such signs as are purely external would form the chief clue to the true condition of bone; viz., irregular contour, deficient development, and evidence of union by callus in other parts.

Once more, there might be the signs and the fact of fracture, with corresponding signs of external injury. And yet the injury might not stand in the same relation to the fracture as would at first sight be assumed. The mark from a fold of cord around the bone, a little extra pressure by the uterus during birth producing ecchymosis, a bruise from a fall, or a tightly fitting and hard article of clothing; these might all attend fracture, and be rather signs of secondary causes, or of coincidences, than veritable and efficient causes of the mischief.

Conclusion. I cannot conclude this paper without urging on my brethren engaged in obstetric practice, the fact, that they cannot be lending more valuable assistance to science than when they are engaged in tracing out the existence of fœtal diseases, the tranmission of such diseases from the parent to the offspring, the original development of diseased conditions *in utero* as depending on modifications of the placenta and the uterine appendages, and the influence of diseases contracted in intrauterine life on the health of the future woman or man. The subjects here involved are amongst the profoundest in medical science, and they lie the most freely open for inspection. We have not to go out of the path of our ordinary practical duties to seek for them, but we cannot perform the duties incident to practice without meeting with them perforce. Every still-born child presents a field for pathological inquiry; but for the dissector's knife to touch a still-born child is an exceptional fact. I regret myself having, on occasion after

occasion, let the opportunity go by for advancing uterine pathology, as though it were of no moment; and I must not, consequently, blame others, but rather try to improve myself, and ask my friends to move with me. As yet, the literature of medicine has not produced more than sixty-six contributions on fœtal diseases, and the majority of these are only stray, and often imperfectly reported cases. How important, then, that all cases of fœtal disease should be from henceforth recorded, that some central mind may group such diseases together in their respective classes, and elaborate a true and philosophical system of uterine pathology.

P.S.—It may be worthy of remark that the lady, Mrs. L., who in September, 1856, gave birth to the fœtus, the subject of the foregoing remarks, was yesterday (September 27th) delivered of a healthy and well formed female child at the full period. T. H. B.

Bedford, September 28th, 1857

THE PHYSIOLOGY, PATHOLOGY, AND THERAPEUTICS OF THE MOTOR FUNCTIONS OF THE UTERUS.

By H. Hannotte Vernon, M.D., Physician to the Great Northern Hospital; formerly Resident-Accoucheur to St. Mary's Hospital.

[*Continued from page* 642.]

Part II.—Pathology (*concluded*).

The next nervous centre which arrests attention is—

3. *The Spinal Cord.* The general effect of the exaggerated importance which has, I believe, been attached to the spinal cord, as far as the physiology of labour is concerned, has been to exalt also its pathological importance. There are doubtless many and very grave circumstances which arise out of morbid states of the spinal medulla, whether these consist of conditions existing in the tissues of the cord, or from states of the economy at large. But what appears to me necessary in relation to the influence of the spinal cord on morbid labour is, to divest the professional mind of the idea that all or nearly all aberrations of excito-motor action of the uterus are aberrations of spinal innervation. The anatomical fact of the extremely scanty supply of spinal nerves to the uterus itself, is evidence enough that the *primary* derangements of uterine nervi-motor action must spring from another source. What that source is I have been at some pains to show. The general physiological law as to the readiness of conduction or diffusion of impressions from one nervous centre to another, being in direct proportion to their intensity, is, moreover, another light by which to read the pathological importance of the spinal cord. The additional fact that organs in the immediate vicinity of the uterus, or in close sympathy with it, are (with the exception of the ovaries) well supplied with spinal nerves, points out that whatever influence the cord exerts upon labour must depend chiefly upon two things; first, upon excitations of other organs than the uterus, of considerable intensity; or, secondly, upon very marked morbid conditions of the spinal cord itself. The locality of eccentric excitations has been discussed before, and attention must now therefore be confined to conditions of the medulla itself. The period of labour at which morbid states of the spinal cord produce their effect upon the parturient act is when dilatation of the os uteri has been accomplished, or nearly so, and when the presenting part of the fœtus has begun to impinge upon and excite those organs and muscles which are supplied with spinal nerves. The exceptions as to the period at which the state of the cord begins to influence labour, arise out of the intensity of the morbid states; for it may be easily seen that extreme polarity of the centre in question will be diffused and conducted to the ganglia of the uterus proper, and thus modify the peristaltic or primary movements of labour from the very beginning. Morbid states of a minor degree do not declare themselves until the nerves of the cord itself are implicated, or until the voluntary and concomitant consensual movements of labour should exhibit themselves.

It is only necessary, in regard to the spinal cord, to resolve its various morbid modes of action into two conditions, which underlie them all; viz., (*a*) hyperæsthesia, and (*b*) hypæsthesia. These two ideas are simple enough, and under them I believe we can range all aberrations of nerve action in relation to uterine motor action. Protean as are the secondary causes of spasm on the one hand, or inertia on the other, they all, with the exception of structural changes in the uterus itself, end in exalted and diminished polarity of nervous centres, topical, or general, or induced by eccentric irritations.

a. Hyperæsthesia of the cord results in the first place from conditions of other parts of the nervous system. Emotions and energetic cerebration would appear in certain instances to throw the spinal cord into a state of undue polarity. When this is the case, the most trifling eccentric irritations will suffice to set up violent reflex actions. The first pains of labour, instead of remaining dependent almost entirely upon ganglionic action, are speedily linked with spinal action. Irritations arising in the uterus itself, which, under ordinary circumstances, would not have been diffused so far, are felt by the cord; and the actions normally peculiar to a more advanced stage of labour are provoked almost at the onset. It is thus that we meet, from time to time, with cases in which, whilst the os uteri is almost closed, there are strenuous efforts, not entirely, though partly, voluntary. Such cases are not instances of mere perversity of the patient; she may close her glottis, depress her diaphragm, and call into action all the muscular power she possesses at a time when such efforts can be of little avail; but the voluntary effort is only auxiliary to a more powerful spinal impulse, which would produce a part of the effort quite independently of volition. It is curious to observe how different this confused, transposed, and misplaced action of the nervous centres is from normal action. When labour progresses under strictly physiological conditions, the first step in the process is to open the mouth of the uterus; for this purpose the uterus suffices for itself, its own muscles, impelled by its own nervous centres, are allsufficient. No imaginable action of the diaphragm and abdominal muscles can affect the opening of the os uteri until it is very far advanced in dilatation; and hence we find that normally the spinal cord and the voluntary muscles are not called into play, until it is possible for them to produce their proper effect. This is a beautiful instance of the economy of nature in producing results. As soon as volition is efficient, it is utilised, and no sooner; and so with reflex action also.

Hyperæsthetic conditions of the uterine ganglia, and of nerve-terminations in all parts of the body, sometimes the result of perverted vascular actions in the tissues in which the nerve-terminations lie, are not unfrequent causes of undue polarity of the cord. This idea I am anxious to impress upon the minds of my readers; viz., that, owing to the close intercommunication between all parts of the nervous system, persistent or intense peripherical irritations, or centric excitability of any one centre, invariably results in exalted polarity of *all* nervous centres. This is a fundamental fact, which it is necessary to bear in mind as explanatory of numerous disorders of innervation, observable not merely in the department of obstetric pathology, but in pathology at large.

The general relation of spinal polarity to polarity of other ganglia or systems of ganglia having been indicated, it is quite unnecessary to go into mere anatomical details. These are readily supplied by the most ordinary anatomical knowledge.

Another form of spinal hyperæsthesia which must be familiar to every obstetrician is that which is at once idiopathic and idiosyncratic; that is to say, peculiar to the individual, and traceable to no anterior pathological condition. It is impossible to offer any further explanation of such a condition than one which shall resolve itself into a merely hypothetical mode of expressing the fact. Why certain individuals should generate a more abundant supply of nerve-impulses than others, is wholly unaccountable. We may hypothecate a greater proportion of grey matter, or more rapid molecular changes, or twenty other imaginary conditions or modes of action; but the thing still remains really unexplained. It appears to be an ultimate fact, that persons of different temperaments possess a vitality which manifests itself in different parts of their organisation. Some affect great vegetative tendencies, and grow into human mountains upon what others would almost starve upon. Others possess a vivacity of nervous constitution, which shows itself in rapid cerebration, rapid and agile adaptive movements, and susceptibility to all kinds of impressions, whether physical or emotional. It transcends the knowledge of the physiologist to say upon what this depends; the scalpel and the microscope are useless means of investigation here, and we are reluctantly compelled to suspend inquiry just where inquiry is the most inviting.

Certain kinds of toxæmia appear to throw not only the spinal cord but all nervous centres into a high state of excitability.

The particular instance of blood-poisoning with which we are most familiar, is that which occurs in connection with the albuminuria of pregnancy. In this disease, either urea or the derivatives of urea, viz., ammonia and carbonic acid, are retained in the blood in large quantities. But the retention of such effete matters indicates other abnormal states of the blood beyond such non-elimination. The presence of ammonia and carbonic acid is cotemporary with absence of a due proportion of oxygen in the blood. Whatever organisms or elements of organisms are present must also be deteriorated in vitality. We know that an undue proportion of carbonic acid in the blood augments the volume of the red corpuscles; that ammonia imparts an unnatural fluidity to the sanguigenous or azotised elements of the blood; and that in the disease in question, there is moreover a watery and cacoplastic state of the circulating fluid, which arises partly from loss of albumen, and partly from deficient aeration. The effect upon labour of this form of toxæmia is in all cases, so far as my experience will carry me, to augment the suffering of the patient; to forestall the spinal stage of labour, and engraft it on the peristaltic or ganglionic stage before it is due. The more extreme development of the spinal polarity which declares itself in the foregoing modes of action produces the ordinary puerperal convulsions. In many instances labour is actually set up in consequence of the superinduced spinal polarity; and there is something peculiar in the incessant and clonic action of the uterus in such cases, even although pregnancy should not be advanced beyond the fifth, sixth, or seventh month. We are acquainted, then, with three separate morbid parturient actions, arising out of this form of blood poisoning; viz., premature labour, painful labour attended with anticipation of the spinal stage, and labour complicated with convulsions. Other forms of toxæmia, such as consist of the blood poisoning attendant upon the eruptive fevers, act occasionally in a similar manner. There are, besides, cases in which unwholesome diet appears to produce a toxæmia, attended with similar results; but with these we are hardly concerned, as they do not so much come within the domain of pathology as of toxicology, and are, moreover, not known in this country.

With regard to abnormal vascular states of the cord and its membranes, and the influence of such states on the polarity of the spinal cord, we have no reliable information.

b. Hypæsthesia of the cord is a condition which comes under notice much oftener than the preceding state. In crowded populations, amongst whom diet is deficient both in quantity and quality, where ventilation is bad, and all hygienics neglected, nothing is commoner than stubborn immobility of the nervous system. The usual physiological stimuli are quite inadequate to their purpose in such cases; and, indeed, there are but few resources of art energetic enough here to rouse the uterus into action. This, then, is the first form of hypæsthesia; viz., one which is the consequence of long continued mal-nutrition and debility. Exactly similar, as far as the observable phenomena are concerned, is an idiosyncratic defect of irritability of the spinal medulla, dependent, like the idiosyncratic excess of irritability, upon no discoverable anterior pathological condition.

General plethora would appear to diminish the polarity of the cord to no small extent, and by no means unfrequently. This species of spinal inadequacy is chiefly found in women who have advanced to nearly forty years of age, and have become obese.

Fatigue, which is a transient form of debility, also lowers the polarity of the spinal cord. The way in which it commonly is brought about in actual practice is as follows. Owing to the officious suggestions of ignorant acquaintances, the patient paces up and down the lying-in room incessantly for hours together, and at every pain, however early in the labour, invites violent efforts in aid, as she supposes, of the parturient act. By these injudicious exertions, exhaustion is gradually brought on; and, when the spinal stage should follow upon the peristaltic, the uterine contractions remain feeble, the voluntary efforts are nugatory, and the reflex actions are halting and inefficient. Such cases are usually met with amongst the poorer class of patients; persons in different circumstances generally have competent advice at a very early stage of labour.

Extreme emotional mobility, the effect of which is propagated, as we believe, from the great cerebral ganglia, is another condition destructive of the polarity of the spinal cord—not always, but in many cases. There is something of caprice in the operation of emotions. Joy will sometimes accelerate and sometimes suspend uterine action, and so with other affections of an emotional kind. Fear operates in both ways. But, generally speaking, *excessive* emotion has more influence than the *character* of the affective condition. States of hemispherical cerebration, in like manner, extend their operations as far as the spinal cord, and still farther. Intense thought diverts as it were the *vis vitæ* from the medulla, and deprives it of its sensibility temporarily, and to a slight extent. The absence of voluntary consent to the reflex actions of the cord is by no means without influence. I entertain but little doubt that centric actions of the cord itself depend very much upon transferred acts of the cerebrum. To such action as this I would propose the term *indirect voluntary action*. It is in this way that organs not under the immediate control of the will are made so mediately. The nature of what takes place is transformation of the conscious cerebral act into an unconscious centric spinal impulse, propagated to the sympathetic system. The cord is not in such cases the mere conductor of the hemispheres, but is a transformer of one kind of impulse into another, and a utiliser of acts which would otherwise have no final cause.

From a consideration of the foregoing particulars, we easily arrive at the conclusion that a due performance of the functions of the cord is best conserved by an equable action of all parts of the nervous system.

4. *The Great Cerebral Ganglia.* In applying the terms hyperæsthesia and hypæsthesia to the various states of the cerebral ganglia, we are getting somewhat further into the region of hypothesis than when doing the same with regard to other nervous centres. By hyperæsthesia, in the present instance, I mean great affective mobility. It can hardly be said that a very definite pathology exists as regards the emotional centres. Debility, from whatever cause, would appear to be at the root of such a condition in many cases. Congenital susceptibility must explain many others. Some must be traceable to defective education and the unrestrained impulses of a wayward nature. A few may depend upon obscure structural conditions of the centres in question, such as undoubtedly lie at the root of various forms of insanity; but their nature and extent are beyond recognition at present. Hypæsthesia, in the present instance, means nothing but stupid indifference, and is perhaps the best thing, obstetrically speaking, that can befal a woman. It is undoubtedly congenital, and, whether of the "happy go lucky" or the stolid variety of affective immobility, tends very much to unembarrassed parturition. The nearer the approach to mere animality, the easier the act of labour.

5. *The Hemispheres of the Brain.* The influence of the hemispheres of the brain proper upon labour includes all that the organs of thought can effect upon the nervous system at large. The pathology of such conditions of the hemispheres as interfere with or in any way modify the actions of the uterus, is hardly a pathology so much of a physical as of a psychical nature; that is to say, that we are not concerned here with anæmia or hyperæmia, superpolarity or subpolarity, but with actions so linked with thought, individual character, and the *will*, that we are taken almost out of the domain of ordinary pathological investigation, and landed in the less definite region of psychology. To attempt to analyse the actions of the cerebral hemispheres, to assign to them the exact share and extent of their influence upon other nervous centres, and mediately upon the uterus, would be to enter upon ground of the most uncertain and shifting kind. Speaking in the most general terms, and confining attention to the broadest possible distinctions which can be drawn between the different cerebral phenomena of labour, it appears to me that they may be reduced to two elementary sets of actions: first, the exercise of such thought as we may call conceptive, reflective, or ratiocinative; and secondly, the exercise of that primary species of thought which we call the will, and declares itself in secondary thoughts and muscular action. With regard to the first of these sets of actions, it may be said that any possible modifications of them hardly belong to pathology, unless they are declaratory of insanity. We recognise the influence of tense thought in the suspension of uterine action; but this is not brain-pathology, though such suspension belongs to the pathology of labour. In this way it is seen how health, or the normal execution of functions, is not merely an absolute idea, but consists, in reality, of a due harmony and balance between the elements of functions. Thought of the ratiocinative type is not properly included in the idea of normal parturition, though hemispherical cerebration is. The fact is, that, when the mind is employed in appreciating facts, objects, ideas, or arguments, or in carrying on a process of reasoning, it is being engaged in such a manner as to preclude the energetic action

of the will. It is in the way of volition that the brain proper is concerned in labour. Whatever draws the mind away from these voluntary exertions, which properly belong to the latter period of labour, tends to retard it. In this way, ratiocinative thought acts simply by occupying the brain when it should be busy with something else, viz., energetic volition. Hope, fear, and other emotions, when they lead to the creation of numerous ideas and the carrying on of long trains of thought of an absorbing kind, act in a similar way, viz., by excluding volition. And thus we see how emotions not only have a positive effect, and depress the polarity of various nervous centres themselves, but we see also a negative influence at work, viz., their substitution, and the substitution of their offspring, for normal processes and elements of the parturient act. It naturally follows from the foregoing, then, that it is to the will we must look alone for any direct influence of the brain over labour. Whether volition is vigorous or the reverse, interests us as obstetricians.

Energetic volition, inasmuch as it produces increased voluntary muscular action, produces more vigorous consensual action. Directed at the right time it acts harmoniously. There is doubtless, too, a stimulation of other nervous centres effected by energetic volition, and cerebral action is transformed into spinal polarity, or still further into exalted polarity of the uterine ganglia.

Defective volition may result from physical debility of a permanent kind, from fatigue, from mental feebleness, from preoccupation, or from excessive pain. The effect is diminished consensual as well as voluntary muscular action; diminished centric action of the spinal cord and other ganglia, and diminished reflex action, as the result of defective polarity, propagated from the brain.

6. *The Cerebellum.* We are only acquainted with the little brain as the co-ordinator of voluntary and automatic movements. If we exclude the irregular actions of hysterical labour, there is perhaps no way in which we have any acquaintance with a morbid action of the cerebellum in labour.

FOURTH PHYSIOLOGICAL BASIS.

An arrangement of Nervous Fibres capable of conveying the Motor Impulses generated in the Nervous Centres to an Organ endowed with power of Motion, and to other Muscles.

FOURTH PATHOLOGICAL DEVELOPMENT.

I have merely introduced this element of parturition in order to keep up the correlation of the physiological and pathological sections of this communication. Practically, there are no causes which interfere with the due conduction of motor impulses from the various nervous centres to the muscles with which they are respectively in relation.

FIFTH PHYSIOLOGICAL BASIS.

A Muscular Apparatus responding to various Impulses, either generated in or reflected from various Nervous Centres; itself possessed like all other Muscular Tissues of an Irritability of its own, and of a given Tonicity and Cohesion.

FIFTH PATHOLOGICAL DEVELOPMENT.

However complete may be the harmony of all the other elements of parturition, however exact and natural the sensibility of peripheral nerve arrangements, and however normal the polarity or other action of the nervous centres, it will tend to no satisfactory result if the muscular tissues in relation with these various nerve arrangements are not of their natural quality; that is to say, of the ordinary powers of contraction, and endowed with the cohesion and tonicity which usually pertains to muscular structures. It might at first sight seem almost superfluous to dwell upon such a deteriorated condition of the muscular structure of the uterus as must necessarily be associated with some of the aberrations of the nervous elements of labour into which we have already inquired, and which might be supposed to overshadow such a local condition, and throw its importance into the shade, as well in a theoretical as in a practical sense. But a little consideration will show that a due appreciation of the sources from whence abnormal uterine actions, whether in the way of excess or deficit, may derive, will tend very much to modify the practice of the careful obstetrician. Thus, in a case of inertia uteri dependent upon great muscular flaccidity, as well as nervous immobility, and occurring in a person who has already borne many children, it would be extremely injudicious to lash the nervous centres into excessive action and endeavour to procure delivery by the energetic action of muscles deteriorated in quality by a long period of malnutrition, or by the premature occurrence of structural involution. Such treatment would probably end in rupture of the uterus. Instrumental assistance is indicated under such circumstances. Thus, it is evident that without duly taking into account the condition of the uterine textures, serious errors in practice may be committed.

The morbid states of uterine tissue which present an impediment to due contraction, are sufficiently easy of diagnosis—in a certain manner, and are not very recondite. It is not pretended that the recognition of such morbid states in the living body is or can ever be exact and absolute. But it is comparatively easy to infer their presence with certainty enough to guide us in practice, and even with more certainty than many morbid states of other organs and tissues are daily diagnosticated and treated, as if the subjects of exact and conclusive demonstration. There is, in the first place, a congenital flaccidity of the muscles in extremely fair lymphatic persons, which extends itself not unfrequently to the uterine muscle, when it becomes developed. Such persons should always be dealt with cautiously, and looked upon as suspected of having thin and flabby uteri. Insufficient diet, bad air, all the causes, in short, which lie at the root of malnutrition, produce an atonic condition of the muscular system which declares itself in the uterus as markedly as anywhere else. Women who have borne many children are liable to a double defect as regards the uterine structure; first, to an imperfect evolution; and, secondly, to a premature involution. Upon inspection, it will be found in such cases that the nuclei of embryonic muscular fibre are abundant where the uterus has not advanced to its proper stage of development; while in instances of premature involution, there is every appearance of fatty degeneration of the muscular fibre, an anticipation in short of the natural process. It is a curious circumstance, and one which is closely connected with these facts, that cases of rupture of the uterus divide themselves distinctly into two categories, which include nearly all cases of rupture which come under observation. The first class consists of cases of obstructed labour (I do not speak after the fashion of the text-books), such as first cases, small pelves, large heads, and rigid passages: the second class consists entirely of women who have already borne a numerous family, and the rupture in such cases is sudden, quite unexpected, and occurs during the progress of a labour otherwise altogether satisfactory. Against such cases as the latter class it is to a certain extent impossible to provide; but the fact that repeated parturition does in a measure tend to deteriorate the quality of the uterine muscular fibre, should guard us against the two free use of oxytocic remedies in multiparous cases. The drain which occurs in cases of albuminuria operates in the way of damaging the uterine structures, as well as in altering the quality and consistency of the blood. The dangers which attend such cases are by no means confined to convulsions; we must be prepared for floodings, for irregular and painful contractions of the uterus, and for rupture of the organ. Were it not so frequently the case that labour sets in prematurely during the existence of the albuminuria of pregnancy, the occurrence of rupture of the uterus would doubtless be familiar to us as a concomitant of the disorder in question, but even as it is, the tendency is sufficiently obvious to induce caution as to the manner of procuring speedy delivery where it is desirable on account of actual or threatening convulsions. The presence of fibrous tumours, of cancer, especially soft cancer, and of malignant ovarian disease, tends very much to the deterioration of the structures of the uterus. The same may be said of excessive discharges of all kinds, and more particularly of repeated antecedent floodings.

I have thus sketched the pathological states which affect the due performance of the motor functions of the uterus. Without having attempted to set before the profession anything like a complete account of the subject, I hope to have at any rate presented the pathological facts in an orderly and scientific form. In all text-books with which I am acquainted, the matter is treated of in the most disorderly manner; the causes of inertia uteri are *catalogued* without reference to any of the physiological properties and actions of which they are nothing more or less than developments; and the student of obstetricy is left floundering amongst an ill assorted set of facts which, as they bear no properly expressed relation either to each other or to any analogous facts, are either retained by dint of a powerful and tenacious memory, or, what is more frequent, forgotten just when they are most required.

CASES OF RESUSCITATION.

By DRAPER MACKINDER, M.D., F.R.C.S.Edin., Gainsborough.

OF resuscitation by the plan of the late Dr. Marshall Hall, so many cases have now been recorded, that it seems almost necessary to apologise for reporting any more. Yet, on a matter of such importance, it were well that we should not entirely avoid its discussion until the public are fully acquainted with the scientific principles on which the "ready method" is founded, and every man and woman prepared to exercise the physician's function in the revivifying of an unfortunate fellow-creature who, from some inauspicious circumstance, may have fallen into a state of suspended animation.

Though the "ready method" will not always be attended with success, it may fairly be considered the best and simplest of all known means for rekindling the vital spark, and the facility of its application will render its adoption universal, when the public come to understand and appreciate the discovery.

It occurred to me the other day, while attending the third case, to be hereafter mentioned, to give a little clinic to the nurses in attendance; and if the like were done by our associates and medical brethren in general at every available opportunity, there would soon be a large section of the community competent to act in any emergency. Recently, a little child was drowned in a pond in this neighbourhood. Assistance was immediately sought; the body was recovered, and taken home as dead: and who will venture to assert that the pulsation of its heart might not have been re-established, its parents saved the mourning of so untimely and unnatural a death, and the coroner cheated of his fee, had the proper means been taken at the moment of the child's removal to the land?

CASE I. Early in the morning of February 5th last, I was summoned to a Mrs. B., of this town, whom I delivered of seven month twins, male and female, the latter being the elder by ten minutes. The boy presented at the feet, and was pulseless when born; but being by far the finer child of the two, and the sex wished for by its father, I determined to resuscitate it if possible, and at once commenced the three-quarter rotation, as recommended by Dr. Marshall Hall. This I continued for fifteen minutes without the slightest appearance of vitality. Then, fearing more had been said about the "ready method" than was consistent with truth, or that I had misapprehended the directions of Marshall Hall, I proceeded to inflate with a piece of tobacco-pipe, an instrument well adapted by its suction property to keep the tongue from slipping backwards. The child grew deathly cold, and its extremities became quite livid; but after persevering for twenty minutes with the inflation, it gave a sudden double gasp for breath, which it repeated in five minutes more. This double gasping or sobbing continued at diminishing intervals for thirty minutes longer, during which period I occasionally forced in a little air. Breathing then, to the astonishment of the mother and attendants, became natural, and I committed the child to the custody of the nurse. It died twelve hours afterwards, and its sister in a few days, neither of them possessing sufficient physical power to sustain life.

CASE II. In the evening of the same day, my assistant, Mr. E. Capron, attended a woman at the workhouse. On his arrival, at half-past eight, he found a vertex presentation, with a loop of the funis, the pulsation of which had ceased. "I found it impossible," said Mr. Capron, "to replace the funis; and in half an hour the woman was delivered of a child apparently quite dead. The usual means failing to restore it, I at once commenced the 'ready method'." After ten minutes trial, the child gave a feeble gasp, and it continued to do so at every ten or twelve turns. The intervals between these respiratory movements soon became shorter and shorter, and in half an hour it breathed of its own accord. It appeared, however, in a semicomatose state for some time, and was three hours before it became warm and could move its limbs. Even then the heart beat very feebly, and at half its normal frequency at birth, and it did not entirely recover until six o'clock the following morning." The child went on well, much to the annoyance of its affectionate mother, who exclaimed, that "it was dead once, if that stupid doctor had but left it alone!" This case was communicated to Dr. Marshall Hall, who published it in the *Lancet* of April 25th.

CASE III. On September 12th, I was sent for to attend a woman of the name of Davey, in her second accouchement. On my arrival, I was informed that the infant had been born ten minutes, and that it had only breathed once. Leaving the mother to take care of herself, I immediately divided the funis, and began to resuscitate the cold and pulseless child by the "ready method". To the surprise of the nurse and a friend present, respiration was established in twenty minutes, and the child seems now in the enjoyment of vigorous health.

ON THE COMPARATIVE IMMUNITY FROM SMALL-POX OF THOSE WHO HAVE BEEN UNDER THE INFLUENCE OF COW-POX.

By G. RIGDEN, Esq., Surgeon to the Canterbury Dispensary.

[*Read before the East Kent and Canterbury Medical Society, Session* 1856-7.]

IN the 36th volume of the *Transactions* of the Royal Medical and Chirurgical Society is published a very valuable paper on small-pox and vaccination, as observed by Mr. Marson at the Small-Pox and Vaccination Hospital, between the years 1836 and 1851 inclusive. From this report, it appears that rather more than half of the patients who came under treatment for small-pox during that period had been previously under the influence of vaccination. It shows, however, further that, while small-pox in the unvaccinated remains as violent and fatal as ever, about one-third of the patients dying, vaccination performed in infancy affords almost complete protection from small-pox until the age of puberty; and even in after ages, the mortality, where there are cicatrices of vaccination remaining, was but 5¼ per cent.; and where there was no cicatrix remaining—and in many of these the evidence of vaccination must have been doubtful—the mortality was but 21 per cent.

During the present year, a very valuable report on this subject has been published by order of the Board of Health, which proves beyond a doubt the very great advantages of vaccination in infancy; but it moreover proves that small-pox does in all parts of this kingdom, as well as in foreign countries, frequently attack those who from our previous knowledge were considered almost, if not quite, exempt from its influence.

The report I am now about to lay before the members comprises 113 cases of small-pox observed by me in the dwelling-houses of the city of Canterbury and its vicinity, between March 4th, 1855, and the end of February 1856. Of these cases, 4 occurred in March, 26 in April, 17 in May, 10 in June, 10 in July, 10 in August, 5 in September, 10 in October, 7 in November, 9 in December, 4 in January, and 1 in February 1856.

These cases occurred in 51 different houses or families. And there were also resident in the same houses 228 other persons who escaped. Of this number, 76 had gone through the disease previously, and 152 had no other apparent protection but that derived from vaccination; in no instance did a person resident in either of the houses escape, unless he or she had been under the influence of one or other form of the disease previously.

Of the total number of cases, 50 were confluent; 17 semi-confluent; and 46 distinct: 6 patients died.

Of the patients, 72 had never been vaccinated, and 41 had been vaccinated, mostly in infancy.

Of the 41 patients who had been vaccinated, 24 showed the cicatrices of vaccination, and 17 were more or less indistinct or not traceable. Of these 41 patients, 3 had the disease in a confluent form, 9 had it in a confluent form, but the pustules arrived at maturity at an earlier period, with little or no secondary fever, and are therefore termed modified; 2 were semi-confluent and modified; and 27 were distinct and modified.

Of these patients 14 were more than 20 years of age, 1 was 19 years, 2 were 17, 1 was 16 years, 3 were 15 years, 1 was 14 years, 2 were 13 years, 3 were 12 years, 1 was 11, 4 were 10, 1 was 9, 1 was 7, 3 were 6, 1 was 5 years, 1 was 4, 1 was 3, and 1 was 10 months.

Of these cases four, viz., aged respectively 10 months, 3 years, 4 years, and 7 years, were under the influence of cow-pox and small-pox combined; and one female, aged 15 years, was reported to have been vaccinated in infancy when afflicted also with itch.

Two of the vaccinated patients died, viz., the child aged 10 months, and the young woman aged 15 years, last alluded to.

The child aged 10 months had small and cow-pox coexisting, but it certainly had been exposed to the infection of the former several days previously to its vaccination for the latter, and neither of these diseases appeared to be modified by the exist-

ence of the other. The young woman aged 15 years had the disease in a very confluent form, and the only evidence of previous vaccination was the statement of the mother, who also reported the existence of another specific contagious disease at the time of vaccination; it is therefore more than probable, that although vaccinated, she had never had the benefit of cow-pock.

The third patient with the confluent form of the disease was a man, aged 47 years, who had evidently been vaccinated in infancy, and had the cicatrices, although imperfect, still existing upon his arm. Upon persuasion, he was revaccinated seven days previous to the appearance of the eruption of variola; it is evident, therefore, that the varioloid poison was maturing in the system previously to the introduction of the vaccine lymph. The pustules of variola in this case were unusually slow in reaching maturity, apparently owing to nervous prostration, and there was but little secondary fever, but the disease did not appear otherwise to be modified by the existence of the cow-pock.

The number of cases here reported upon is too small to render definite the relative frequency which each form of the variolous disease will assume in a great number of cases; but the number of persons exposed to the infection, and who escaped the disease, with the probable reason for their exemption, appears to me to sufficiently prove that without the previous existence of either variola or vaccinia, all persons so exposed would probably have been afflicted. And I am not aware that any previous report upon an epidemic of this disease has noted this circumstance.

INTRACTABLE PREGNANT SICKNESS, NECESSITATING PREMATURE DELIVERY, ON TWO OCCASIONS, IN THE SAME PATIENT: DEATH ON THE TENTH DAY AFTER THE LAST OPERATION.

By Edward Garraway, Esq., Faversham.

[*Read before the East Kent and Canterbury Medical Society, Session* 1856-7.]

Mrs. ——, aged 38, a tall, pale, exsanguined, and emaciated woman, had been attended by me in previous confinements. She was the wife of a tradesman, and mother of a large family, and had always suffered exceedingly from sickness during the latter period of pregnancy, so much so as to necessitate confinement to her bed for the last month or two. She consulted me in April 1854, when she was six months advanced, imploring me to do something for her sickness, or she should inevitably die. On former occasions I had exhausted remedies, and was therefore little hopeful of doing her good. It is true, the treatment might have been deemed empirical, but this was of necessity. Doing battle with a symptom in no way advances the removal of its cause; and, indeed, it is difficult to conceive how vomiting, sympathetic with an affection of a remote organ (whether it be an uterus occupied with its ovum, a gall-duct impacted with calculi, or an ureter distended with lithic acid concretions), can be controlled otherwise than by remedies specially directed to the primarily affected organ. Of these, so far as the womb is concerned, we may be said to possess none, save, of course, such as would produce contraction and expulsion of its contents.

The poor woman's state was truly pitiable; not a particle of food nor a drop of fluid would remain on the stomach, even for five minutes. So long as total abstinence was maintained, there was peace; but the smallest quantity of the blandest material was immediately rejected; and, what seemed astonishing to her friends, for every spoonful she swallowed, two were thrown up. I went through the form of administering purgatives by the mouth and rectum; sedatives, as carbonic acid, preparations of opium, hydrocyanic acid, calomel, and morphia; compound tincture of senna, in drachm doses (a remedy in which some old practitioners appear to put faith, but which seems to me of as doubtful efficacy as the rest); blisters over the pit of the stomach, the vesicated surfaces being dressed with morphia ointment; croton liniment over the spine. All was to no purpose; the vomiting persisted; the debility increased; the emaciation became extreme; the pulse remained permanently at 110, and a mere wave; and my poor patient insisted that she must die. The seventh month was now complete; and although, on previous occasions, I had always seen Mrs. —— accomplish her full term, notwithstanding the exhaustive drain to which she had been subjected, I now felt it could be so no more. To exist two months, or even two weeks longer, seemed clearly impossible. Death or delivery was the only alternative. I had been daily expecting that Nature herself, ere the woman's life was really imperilled, would have emptied the uterus of its contents; but Nature not seeming disposed to have anything to do with it, I determined, after consultation with my partner, upon immediately inducing premature labour. There was no reason to doubt that the fœtus was alive; but the case was too urgent for the question of its viability to be entertained. Examination *per vaginam* revealed the os uteri low down, patent to the finger, soft and dilatable, and the head presenting. Puncturing the membranes appeared the most facile and expeditious mode of inducing uterine contractions. Sir C. Clarke's trocar and canula were used; the liquor amnii drawn off. No pain immediately followed; but in twelve hours one forcible uterine effort expelled the child, which, small and feeble, survived but an hour or two. From this moment the sickness ceased, but my patient for some weeks appeared to be in a dying state, so great was her debility, and so little of any kind of nutriment was she able to take, on account of the extreme pain which this induced in the stomach. However, by slow degrees she rallied; and, after three or four months, was enabled to be carried down stairs, and I gradually withdrew my attendance.

In the spring of 1855 I was again sent for to Mrs. ——. It appeared that she had never gained sufficient strength to walk unaided across the room; yet little more than a year after her last accouchement she was again advanced upwards of six months in the family way. All her old symptoms had returned, if possible, in a more aggravated form; she had incessant sickness night and day, inability to take any kind of food or obtain sleep; great emaciation; pulse 120; and debility so extreme, that the poor creature could not turn in her bed without assistance. Again we punctured the membranes, and again a living child was expelled in about the same time. It breathed an hour or two, and expired. Mrs. T. now gradually ceased to vomit; but eating caused so much pain that she took but little food; the debility and emaciation increased, and ten days after delivery she sank. No *post mortem* examination was permitted.

It is not improbable that an autopsy might have revealed more or less of organic change in the stomach, since it is hardly conceivable that its morbid condition, persisting even unto death, could be solely attributable to the sympathetic irritation of a gravid uterus; still as the sickness invariably commenced with pregnancy, and subsided with delivery, we can but infer that whatever might have been the remote, the immediate cause of death was exhaustion from pregnant sickness.

I have employed Sir C. Clarke's trocar and canula but on three occasions, and have found it admirably adapted to its purpose. It may be used either without the trocar as a blunt tearing instrument; in which mode, having fairly entered the os uteri, it is scarcely possible to do mischief, and may be pushed with a considerable amount of freedom; or if the membranes do not yield under such pressure, the trocar may be projected to ever so minute an extent, rendering it a superficially scratching or lacerating instrument, so entangling and tearing the membranes; or, lastly, which is the least desirable mode of operating, the trocar may be projected with a plunge, in the same way as we tap a hydrocele; but this is a reckless proceeding, not to be adopted if it can be avoided. Both my partner and myself were considerably alarmed some time since when inducing premature labour in a lady with deformed pelvis. We had passed the canula fairly into the os, and felt a degree of yielding and undulation, which satisfied us we were pressing upon the bag of membranes; but as they would not readily give way, we projected the trocar slightly, at the same time giving the instrument a sudden jerk, and so entered the cavity of the uterus. A fluid immediately came rapidly trickling through the canula; but our consternation may be imagined, on placing napkins to absorb this, to find that it was pure blood. What we had done we could hardly conceive; the only conjecture to hazard was that we had gone through a presenting placenta. Happily, whilst debating whether we should plug the vagina, the hæmorrhage ceased, and did not recur. Dr. Robert Lee was immediately consulted; he adopted our view of the case, viz., placental presentation; counselled us to be ready to act at a moment's notice, and to meet circumstances as best we could. Labour did not supervene until four days; it was perfectly normal, and the placenta was attached somewhere at the fundus uteri. The source of the hæmorrhage it is difficult to explain, unless it might have been from some unusually dilated vessels of the amnion.

SUPPLEMENT TO OBSERVATIONS ON ELIMINATION IN FEVERS.

By C. Handfield Jones, M.B., F.R.S., Physician to St. Mary's Hospital.

I deny that an equal reaction takes place in all parts of the tube when filled with liquor sodæ chlorinatæ, added to a drachm of urine. The urine, as it descends and mixes with the lower fluid, undergoes decomposition rapidly; and very much more gas is generated in the upper than in the lower parts of the tube. If the urine is rich in urea, it would be better to operate on only half a drachm.

I was led to try the method I have employed, because I found so much inconvenience from the mercury being driven violently out and scattered about, in consequence of the energetic action which ensued very quickly after pouring in the decomposing liquid. As the mercury was to be replaced by the salt solution, I tried at first pouring the latter in immediately after the liquor sodæ chlorinatæ, and this answered pretty well; but I afterwards thought that the filling up the tube with liquor sodæ chlorinatæ alone would be more desirable. I used about eight times the volume of urine (Dr. Davy states five or six times to be sufficient), but diluted it with nearly an equal amount of water.

The amount of urea indicated in this way was generally so much above the highest figure mentioned in Dr. Davy's paper (5.472 grains per ounce), that I was less inclined to suspect there was any material loss. I never supposed, however, that the result was more than an approximation to the truth; I should not have laid stress on any small differences as affording evidence of increase or diminution in the daily urea amount. It is to be considered also that the daily amount of urine is not so fixed and constant as to make it certain that, even with the most accurate analysis, we can refer small variations in the urea or other constituents to causes whose operation we wish to ascertain. Large deviations from the normal mean, we may be pretty sure, are not accidental; the smaller may easily lead us astray.

I still maintain that a series of experiments performed in the same way yield results capable of being compared with each other, though they may be quite unfit to be compared with others.

I have made five careful comparative experiments since reading Dr. Thudichum's strictures, the results of which I will now state.

(1) Urine of light colour, specific gravity 1018; adult male. One drachm, with diluted liquor sodæ chlorinatæ, yielded 1.29 cubic inch of nitrogen; one drachm, with 1.6 cubic inch of mercury, yielded 1.52 cubic inch of nitrogen; one drachm, with undiluted liquor sodæ chlorinatæ, yielded 2.1 cubic inches.

(2) Urine of child, specific gravity 1018. One drachm, with 1.7 cubic inch of mercury, gave 1.64 cubic inch of nitrogen; one drachm, with liquor sodæ chlorinatæ alone, gave 1.60 cubic inch of nitrogen.

(3) Urine of deep reddish colour, specific gravity 1025; female; liver obstructed. One drachm, with 1.7 cubic inch of mercury, gave 1.8 cubic inch of nitrogen; one drachm, with liquor sodæ chlorinatæ alone, gave 1.9 cubic inch of nitrogen.

(4) Urine of lightish colour, specific gravity 1017; adult female. One drachm, with 1.7 cubic inch of mercury, gave 1.59 cubic inch of nitrogen; one drachm, with liquor sodæ chlorinatæ alone, gave 1.61 cubic inch of nitrogen.

(5) Urine of full colour; specific gravity 1022·5; adult male; One drachm, with 1·89 cubic inch of mercury, gave 1·65 cubic inch of nitrogen; one drachm, with liquor sodæ chlorinatæ alone, gave 2·3 cubic inches of nitrogen.

These results certainly show that when undiluted liquor sodæ chlorinatæ alone is employed, the amount of nitrogen disengaged is above or very nearly equal to that which is obtained, when mercury and liquor sodæ chlorinatæ are used in Dr. Davy's original way. (The amount of mercury used in the third experiment was rather too small.) The first experiment shows that with diluted liquor sodæ chlorinatæ, a less amount of gas is evolved than in the other cases; a like result was obtained in some other trials.

I ought to have written minims when estimating the degree of acidity of urine instead of drops. With this correction, I contend that the figures 1 have given furnish information of some value. They show, *e.g.*, that the remarkable deposition of uric acid in case 1 was not owing to hyperacidity of the urine. It would be very easy to express the acidity in the cases I published in terms of weight by evaporating sixty minims of the solution to dryness and weighing the residue. No boiling is necessary with the soda solution I have used to obtain a neutral condition.

Why my determinations of uric acid are "of no use" is not said. It may be so, but I can scarcely accept a simple oracular condemnation.

I will only say further that I made no claim in my paper to any originality, or great accuracy of chemical observation. I thought, and I still think, that the representations I gave of the condition of urine in these cases of fever were in the main correct, and were sufficient to illustrate the point I had in view, viz., that urinary elimination in fever is not in defect, but rather in excess.

I greatly regret the *animus* displayed by Dr. Thudichum. I almost think, on calmer reflection, he will feel that several of his expressions were neither seemly nor courteous.

London, September 29th, 1857.

Association Intelligence.

MEETING OF COMMITTEE OF COUNCIL.

A Meeting of the Committee of Council will be holden at the Queen's Hotel, in Birmingham, on Monday, the 12th October, at half-past three o'clock.

Philip H. Williams, M.D., *General Secretary.*

Worcester, September 28th, 1857.

[On the same day, the first annual meeting of the National Association for the Promotion of Social Science, will be holden in Birmingham. An address will be delivered by Lord Brougham.]

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
Birmingham and Midland Counties. [Ordinary Meeting.]		Thursday, Oct. 8th.

LIST OF MEMBERS: NOTICE.

In accordance with Law 24, a list of members of the British Medical Association will shortly be published. Gentlemen whose designations or addresses are incorrectly given in the last list, or on the wrappers of their Journals, will oblige by at once forwarding the necessary corrections to the Editor of the Journal, 37, Great Queen Street, Lincoln's Inn Fields, London, W.C.

ADMISSION OF MEMBERS, AND PAYMENT OF SUBSCRIPTIONS.

The General Secretary of the British Medical Association begs to call the attention of members to the Laws regarding the Admission of Members, and the Payment of their Subscriptions.

"*Admission of Members.* Any qualified medical practitioner, not disqualified by any bye-law, who shall be recommended as eligible by any *three* members, shall be admitted a member at any time by the Committee of Council, or by the Council of any Branch."

"*Subscriptions.* The subscription to the Association shall be One Guinea annually; and each member, on paying his subscription, shall be entitled to receive the publications of the Association for the current year. The subscription shall date from the 1st January in each year, and shall be considered as due unless notice of withdrawal be given in writing to the Secretary on or before the 25th of December previous."

Either of the following modes of payment may be adopted:—

1. Payment by Post-Office Order to the Treasurer (Sir C. Hastings, M.D., Worcester), or to the undersigned.

2. Payment to the Secretary of the Branch to which the member belongs.

3. Members residing in the Metropolis and vicinity can make their payments through the publisher of the British Medical Journal, Mr. Thomas John Honeyman, 37, Great Queen Street, Lincoln's Inn Fields, W. C.

Philip H. Williams, *General Secretary.*

Worcester, October 1857.

British Medical Journal.

SATURDAY, OCTOBER 3rd, 1857.

DEATH OF

DR. JAMES ADEY OGLE, F.R.S.,

VICE-PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

With great regret we announce the death of Dr. Ogle, Regius Professor of Medicine in the University of Oxford, and one of the Vice-Presidents of the British Medical Association. Dr. Ogle died at Old Shoreham, at the residence of his son-in-law, the Rev. J. B. Mozley, vicar of the parish, at 7 A.M. on September 25th, after an illness of thirty hours.

Dr. Ogle had for upwards of thirty years occupied a distinguished position in his University, and was the object of general respect among the profession. He presided over the memorable meeting of the Provincial Medical and Surgical Association held at Oxford in 1852. We hope to be able to give in an early number a sketch of his career: and, in that expectation, we leave his memory for the present to the respect and regret of our associates.

INDIA SAVED BY INCHES.

At a moment like the present, when the lives of thousands of Europeans hang by a thread, and the vast empire of the East has well nigh escaped from our grasp, it behoves every class of Her Majesty's subjects to do all in their power to support the British army. We find the *Times* calling upon the clergy and the great landowners to indoctrinate the stolid rustic with a love of arms. Volunteers of the better class are pressing forward. Graduates of Oxford are but too glad to offer their services even in the rank and file of some special corps of England's sons rushing to the rescue. Enthusiasm is beginning to swell the bosom of the generally immovable Briton, and the public mind is rising rapidly to the level of the great and momentous struggle in which this country is embarked with the revolted East. This enthusiasm was indeed looked for; continental nations, trained as a man to arms, sneer at our apathy, and wonder that troops of Englishmen do not rush to the tropics to avenge our murdered men and violated women. Alas! what use does the Government make of this ardent spirit? What sign do they put forth in correspondence with this uprising of the nation? They simply stick to their inches. Recruiting sergeants are scattered broadcast through the country, and the rustics are invited to arms, but they must not dare to rush to the rescue unless they are at least five feet five —the bone and muscle of the country is measured by the rule, and, according to regulation, a man cannot be a hero under that magic height.

We think that in this matter the medical profession ought to have some voice; and we accordingly call upon the leading men of our body who have influence with the Government, to show the fallacy of the height test, and thus aid in adding many thousands of able-bodied men to the small army of heroes at present holding at bay millions of infuriated savages. The folly of adopting the test of inches in order to prove the ability of a man to carry arms and bear fatigue, can be accounted for only by the fact that medical science has no voice whatever at the Horse Guards. If we were to select our beasts of burthen on the same principle as we select our soldiers, what would become of us? Imagine an agriculturist refusing Suffolk punches, and filling his stables with long backed animals, whose fore and hind quarters are so far distant from each other that the body can scarcely draw them along! We must be excused for thus drawing our illustration from the brute creation; but really we are obliged to put the thing strongly, in order to show its absurdity. That little men are quite capable of enduring fatigue and active exertion, no one will, we think, attempt to deny. *The capacity of the chest, cæteris paribus*, is the true measure of the power of the man, and not his length of legs. Now, a full chest is as often found in the man below the standard recruiting height of the British army, as in one above it—if not oftener. Put any regiment through the test of the spirometer, and we will venture to say that the little men will come quite as well out of the ordeal as the tall ones.

We need not, however, speculate as to the relative force and vigour of short and tall; every man must be aware, from his own experience, that the matter is not in any way settled by inches. Let the reader look around among his friends, and note the one that will do the longest day's shooting without being knocked up, walk the farthest without complaining of his back, or run the longest without being blown. If he finds that one to be a model for a grenadier, our argument is at an end; if, on the contrary, he is a short, compact, deep and broad chested man, we need say little more in favour of lowering the standard at least a couple of inches. The singular thing is, that at the moment whilst we are turning back thousands of much needed men because they are not up to the prescribed mark, we are fighting before Delhi with the little Goorkhas—a force that, for courage and pluck, is the admiration of the whole camp. During the late Crimean war, again, we enrolled the Anglo-Swiss Legion at the low standard of 5 feet 2½ inches—a height, be it remembered, that at least averages that of the splendid infantry of France, which rolled back from its soil the arms of a continent.

Away, then, with this stigma upon all able-bodied Englishmen below five feet five; let the strong arms and stout hearts of that population at present untouched and unheeded by the wheedling dispenser of Her Majesty's shilling have full play, and we will venture to say that 10,000 men would speedily be added to the regiments of the line. If, by and through the persistence of the Horse Guards in their absurd regulation respecting height, a check should be placed upon recruiting, the public and parliament will know where to lay the blame. At the present moment, we are in the position of a caravan perishing

of drought in the presence of abundance of water, because the chief will not allow any of it to be drawn as it does not rise to a certain height.

Absurd as this regulation is with respect to the infantry, there is a still more absurd arrangement by which men are recruited for the cavalry, of so heavy a weight that they cannot ride the country horses—the only ones that will stand the climate. At the present moment, the *light cavalry* going out to India to meet the splendid irregular horse of the mutineers, ride at least nineteen stone, and with their own forage, two and twenty stone! The carabineers at present before Delhi, smothered in their heavy accoutrements, are almost useless. Small active men, such as our grooms are made of, are the folk for the recruiting sergeant, and not giants, under whom their horses stagger, and who are totally unable to overtake the lighter squadrons of the mutineers. We are afraid that the Horse Guards have learned but few things since the late war, and forgotten nothing. The carabineers still wear brass helmets under a sun which strikes dead a large percentage of our troops. The condition of the camp, again, before Delhi is said to rival that at Balaclava in the early days of the siege—the ordure of the men is lying about in heaps together with offal of all kinds. No wonder that cholera sweeps away general after general, and is decimating the ranks of our little band of heroes.

THE WEEK.

The *Edinburgh Medical Journal* for the present month announces that Sir Charles Hastings has recently paid a visit to the northern metropolis, with the view of making arrangements for the next annual meeting of the British Medical Association, and also with the more immediate object of promoting the formation of an Edinburgh Branch. Our contemporary states that—

"It is proposed to form Branches in several districts in Scotland: the Edinburgh Branch to include the practitioners of the surrounding and southern counties. It is intended to hold soon a meeting of the profession in the city and neighbourhood, for the purpose of laying the foundation of the Edinburgh Branch; when an enrolment of members will take place, to be followed by the election of a president, council, and secretaries, for the Branch. Applications for membership in the Edinburgh Branch may be made to Dr. Black, 2 George Square" (formerly president of the Lancashire and Cheshire Branch), "or to Dr. John Struthers, Surgeon's Hall, who have consented to act as interim secretaries. The promoters hope that a respectable number of the profession in this quarter will aid and promote this desirable measure; so that a brotherly welcome may be given to the members of the General Association, when they next meet in this city, over and above the hearty reception that awaits them from our hospitable citizens."

We rejoice exceedingly to hear that an Edinburgh Branch is to be formed at once: and trust that, now the impulse has been given, our Association will increase and wax strong in Scotland. The friendly tone, also, which the medical press of Edinburgh assumes, is an encouraging repetition of the brotherly sentiments expressed in the letters from that city which were read at the last Annual Meeting of the Association. Altogether the prospects of the Association in Scotland appear very hopeful.

Whilst we are writing these lines, the Winter Session will once more have been opened by the delivery of the addresses to the students of the various medical schools, metropolitan and provincial. As the Journal of the Association is read by established practitioners, and falls into the hands of but few of the cadets of the profession, it never has been our custom to publish these addresses, or to make any special note of the return of a session, which is interesting chiefly to teachers and students. We may be allowed to remark, however, that it is understood that the entries in the metropolitan hospitals are, on the whole, good. St. Mary's Hospital has a much larger number than was anticipated, and thus the youngest of the metropolitan hospitals is growing so fast that we anticipate for it a brilliant future. Whilst, however, we refrain from any attempt to rival our contemporaries with respect to the publication of these addresses, we shall, if we see necessary, give room in our next to any particular addresses, or portions of addresses, which may be of interest to our readers.

Dr. Radclyffe Hall's correspondence with the Secretary of the Unity Life Office exhibits an example of pluck on the part of our associate, which ought to be followed whenever an occasion presents itself. The office tendered Dr. Hall the fee of *half-a-guinea* for making an hour's medical examination of a life proposed for assurance; and the Secretary defends this proceeding on the ground that the sum proposed to be assured was small, and that the ordinary scale of payment to medical referees is *half-a-guinea* when the assurance is for a less sum than £500. Here, then, is enunciated a principle, the absurdity and injustice of which are cuttingly exposed by Dr. Hall.

"You expect and have", he says, "the same care, exactness, and time, from your medical referee, whether the sum insured be £50 or £5,000. I expect you do not offer a fee of £5:5 when the sum to be insured is £2,000! Why, then, should you *diminish* your fee *below* the fair and customary honorarium when the sum insured is small, if you do not *raise* the fee *above* it when the sum insured is large?"

Of course, why diminish for one motive, and not increase for the converse reason? But the physical process of diminution is in many instances more easy than that of increase; and it seems very easy in the case of assurance office fees to medical referees. Dr. Hall has, as might be expected, refused to accept the paltry remuneration offered for an hour's conscientious work, but has handed it over to the Torbay Infirmary. The spirited conduct of Dr. Hall in this instance, though the occasion be trifling, will meet with the approbation of the profession.

We perceive from a printed document which has been forwarded to us, bearing the signature of Dr. John Charles Hall as secretary to a committee, that it is proposed to establish at Sheffield a hospital to contain fifty beds, in connection with the Dispensary of that town. This has been decided on by the governors of the Dispensary; who have appointed a committee to take the steps necessary for carrying out the object. The committee, in the address before us, make out certainly a good case in favour of a new hospital, in addition to the Infirmary of one hundred and thirty beds which Sheffield already possesses. There is not, they say, one town in England of the size of Sheffield, which has only one hospital: and they show by figures that the present hospital accommodation in that town is not one bed (the proportion is about ·8) to each thousand inhabitants. As, then, it is decided to build a new hospital, we may here give some advice to Dr. Hall and his colleagues, and to all similarly concerned. It is this: endeavour to improve on the old plans of hospital building: that is to say, let your patients have as pleasant and well ventilated an edifice as possible. Why not give them a "Bordeaux" hospital?

The *Times* informs us that the Marquis of Lansdowne has given a commission to Mr. Noble for a statue of Dr. Barrow, which is to be placed in the ante-chapel of Trinity College, Cambridge. It is intended, says the paragraph, "to be a companion to the statues of Bacon and Newton." Who, in the name of fortune, is Dr. Barrow, that he is to be placed in the company of two such philosophers?

Reports of Societies.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

TWENTY-SEVENTH ANNUAL MEETING.

[*Held in Dublin, August 26th, and following days*, 1857.]

[*Continued from page* 818.]

Section of Mathematical and Physical Science.

THE EFFECT OF WIND ON THE INTENSITY OF SOUND. BY PROFESSOR G. G. STOKES.

The remarkable diminution in the intensity of sound, which is produced when a strong wind blows in a direction from the observer towards the source of sound, is familiar to everybody, but has not hitherto been explained, so far as the author is aware. At first sight we might be disposed to attribute it merely to the increase in the radius of the sound-wave which reaches the observer. The whole mass of air being supposed to be carried uniformly along, the time which the sound would take to reach the observer, and consequently the radius of the sound-wave, would be increased by the wind in the ratio of the velocity of sound to the sum of the velocities of sound and of the wind, and the intensity would be diminished in the inverse duplicate ratio. But the effect is much too great to be attributable to this cause. It would be a strong wind whose velocity was a twenty-fourth part of that of sound; yet even in this case the intensity would be diminished by only about a twelfth part. The first volume of the *Annales de Chimie* (1816), contains a paper by M. Delaroche, giving the results of some experiments made on this subject. It appeared from the experiments,—first, that at small distances the wind has hardly any perceptible effect, the sound being propagated almost equally well in a direction contrary to the wind and in the direction of the wind; secondly, that the disparity between the intensity of the sound propagated in these two directions becomes proportionally greater and greater as the distance increases; thirdly, that sound is propagated rather better in a direction perpendicular to the wind than even in the direction of the wind. The explanation offered by the author of the present communication is as follows. If we imagine the whole mass of air in the neighbourhood of the source of disturbance divided into horizontal strata, these strata do not all move with the same velocity. The lower strata are retarded by friction against the earth, and by the various obstacles they meet with; the upper by friction against the lower, and so on. Hence the velocity increases from the ground upwards, conformably with observation. This difference of velocity disturbs the spherical form of the sound-wave, tending to make it somewhat of the form of an ellipsoid, the section of which by a vertical diametral plane parallel to the direction of the wind is an ellipse meeting the ground at an obtuse angle on the side towards which the wind is blowing, and an acute angle on the opposite side. Now, sound tends to propagate itself in a direction perpendicular to the sound-wave; and if a portion of the wave is intercepted by an obstacle of large size, the space behind is left in a sort of sound-shadow, and the only sound there heard is what diverges from the general wave after passing the obstacle. Hence, near the earth, in a direction contrary to the wind, the sound continually tends to be propagated upwards, and consequently there is a continual tendency for an observer in that direction to be left in a sort of sound shadow. Hence, at a sufficient distance, the sound ought to be very much enfeebled; but near the source of disturbance this cause has not yet had time to operate, and therefore the wind produces no sensible effect, except what arises from the augmentation in the radius of the sound-wave, and this is too small to be perceptible. In the contrary direction,—that is, in the direction towards which the wind is blowing,—the sound tends to propagate itself downwards, and to be reflected from the surface of the earth; and both the direct and reflected waves contribute to the effect perceived. The two waves assist each other so much the better as the angle between them is less, and this angle vanishes in a direction perpendicular to the wind. Hence, in the latter direction the sound ought to be propagated a little better than even in the direction of the wind, which agrees with the experiments of M. Delaroche. Thus the effect is referred to two known causes,—the increased velocity of the air in ascending, and the diffraction of sound.

ON THE COLOUR OF SALTS IN SOLUTION, EACH CONSTITUENT OF WHICH IS COLOURED. BY DR. GLADSTONE.

It is a general law that "all the compounds of a particular base, or acid, when in aqueous solution, absorb the same rays of light"; hence it may be deduced that when a coloured base and a coloured acid combine, the resulting salt will transmit only those rays which are not absorbed by either constituent,—or, in other words, only those rays which are transmitted by both. This was proved to be actually the case by a prismatic examination of compounds of chromic, permanganic, and carbazotic acids with copper, iron, nickel, uranium, and chromium. Though the compounds of chlorine, bromine, and iodine with hydrogen and most metals are colourless, the compounds of these halogens with gold, platinum, and palladium exhibit an obsorption of light due to the halogen as well as that due to the metal. The same is true in respect to chlorides, bromides, and iodides of copper, iron, nickel, and cobalt, when these salts are dissolved in a minimum of water; but when more water is added the colour changes, and the absorption due to the halogen no longer exists. In one or two of the cases examined, a slight variation from the general law occurred; and ferrocyanide of iron forms a complete exception. The double chloride of platinum and copper shows the absorbent effect of all these constituents.

EFFECTS OF HEAT ON THE COLOUR OF DISSOLVED SALTS. BY DR. GLADSTONE.

If a coloured salt be dissolved in water, heating the solution does not usually affect the colour of it. In not a few cases, however, the colour is rendered more intense, and altered somewhat in its character. Among the examples mentioned were ferrid-cyanide of potassium, meconate of iron, chloride and bromide of palladium. In other cases, heating the solution produces apparently a total change of colour: for instance, chloride of copper passes, when heated, from blue to green; chloride of nickel, from a bluish to a yellowish green; sulphocyanide of cobalt, or chloride of cobalt dissolved in aqueous alcohol, from a pale red to a deep bluish purple. In all these instances, heat causes the absorption of a larger quantity of rays by the solution; but this appears to depend sometimes on some purely physical cause, at other times upon some chemical change. With ferrid-cyanide of potassium, and similar salts, a certain thickness of the heated solution produces precisely the same effect on the spectrum as an increased thickness of the same solution when cold. With chloride of copper, and similar salts, the somewhat dilute solution, when heated, produces the same effect on the spectrum as the same solution when concentrated and cold, these salts being all of that character which is altered in colour by the addition of water.

THE GRAND CURRENTS OF ATMOSPHERIC CIRCULATION. BY MR. J. THOMPSON.

It has been ascertained, as a matter of observation, that, in latitudes extending from about 30° to the poles, the winds, while prevailing from west to east, prevail also in directions from the equator towards the poles. Now this motion towards the poles appears not to have been hitherto satisfactorily explained. In fact, it is the contrary motion to what is naturally to be expected when the theory of Halley, which was given about the year 1686, and which appears to afford the true key to the explanation of the trade winds, is followed up with respect to the circulation of the air in other latitudes than those in which the trade winds occur. According to this theory so applied, it would naturally be expected that the air, having risen to the upper regions of the atmosphere in a hot zone at the equator, should float towards the north and south polar regions in two grand upper currents, retaining, as they pass to higher latitudes, some remains, not abstracted by friction and admixture with the currents below, of the rapid equatorial motion of about 1,000 miles per hour from west to east, which they had in moving with the earth's surface at the equator. Also, it would be expected that the air in the polar regions should have a prevailing tendency to sink towards the surface of the earth, in consequence of its increased density caused by cold; and that it should tend to flow from the polar regions along the surface of the earth, towards the equator, with a prevailing motion from west to east in advance of the earth, until, by friction and impulses of the earth's surface, the motion in advance of the earth, brought from above by the air in its descent, and communicated further to it by friction and admixture from above, as it passes to lower latitudes than its places of descent, is exhausted; or, in other words, until it

reaches the latitude in which the trade winds commence to blow from the east, and until it has communicated, in blowing from west to east on the earth's surface, a torsional force to the earth, just sufficient to balance the opposite torsional force communicated to the earth by the trade winds blowing from east to west. Now this theory, obvious as it appears in the form just adduced, is found, in one essential point, to be controverted by observations. This point is what was stated in the outset of the present article, namely, that the prevailing winds on the surface of the earth, in latitudes higher than 30°, are, while blowing from the west, as should be expected, found to blow more towards the poles than from the poles; and thus do not move as if impelled along the surface of the earth from polar to equatorial regions by an augmented pressure due to condensation by cold in polar regions, and a diminished pressure due to rarefaction in the equatorial regions. It appears, then, that, in temperate latitudes, there are three currents at different heights; that the uppermost moves towards the pole, and is part of a grand primary circulation between equatorial and polar regions; that the lowermost moves also towards the pole, but is only a thin stratum forming part of a secondary circulation; that the middle current moves from the pole, and constitutes the return current for both the preceding; and that all these three currents have a prevailing motion from west to east, in advance of the earth.

OUTLINE OF A THEORY OF THE STRUCTURE AND MAGNETIC PHENOMENA OF THE GLOBE. BY MR. J. DRUMMOND.

The author, from the admitted fact of our earth having cooled down from an original state of fluidity, and that it now is a solid crust inclosing a fluid mass of molten materials, held that there must be an action of the sun and moon on this fluid mass analogous to that which caused the tides of the ocean; that from thence an outward pressure on the crust most result, propagated along it, in a manner similar to the great tidal wave; and from this principle, in an elaborate essay, he deduced the ordinary magnetic phenomena, as well as volcanoes, earthquakes, and other violent actions; concluding by answering objections which may be urged against the foundation and details of this theory.

Section of Chemical Science.

A PROCESS FOR THE DETERMINATION OF THE NITRATES OF PLANTS. BY PROFESSOR W. K. SULLIVAN.

The author pointed out the importance of finding a process for the purpose, because, in determining the amount of nitrogen in plants by the usual processes, a part of the nitrogen of the nitric acid is included in the result, and consequently the true amount of assimilative azotic principles cannot be deduced from ultimate analysis, if nitrates be present. The chief feature of the process is the use of sulphovinate of silver to precipitate the vegetable acids, the silver salts of which are insoluble in absolute alcohol, while the nitrate of silver is soluble. He also pointed out a method of separating lactic and acetic acids from one another when present.

ON COLOURED CONFECTIONERY. BY DR. M'NAMARA.

The author drew the attention of the Section to the large quantity of highly poisonous colouring matters employed in the manfacture of confectionery. He referred to cases of deaths resulting from this practice. He alluded to the manner in which these substances are coloured by vegetable colouring materials of a harmless nature, and suggested that a list of such colours should be compiled by parties competent to the task, from which alone confectioners should be permitted to select their colours. He gave a sketch of such a list, and exhibited some beautifully coloured confectionery, in which such colouring matter had been detected. These confections he had for some time in his possession, and their colours did not appear to have faded. In conclusion, he cautioned the public against buying any confectionery in which green or blue colours exist, as such colours are probably produced by poisonous agencies.

The President said that, in his opinion, the subject of the foregoing paper was a most important one, and that suggestions such as these, as to the employment of innocent colours, were far more valuable than positive prohibitions against the use of poisonous colouring matters, as more likely to promote the object in view—the protection of the public health.

THE SPECIFIC GRAVITY OF CHLORIDE OF NITROGEN, WITH SOME REMARKS UPON ITS ACTION ON ALCOHOL. BY M. ALPHONSE GAGES.

M. Gages gave determinations which were extremely close to those given many years ago by Sir Humphry Davy. He also mentioned the fact that chloride of nitrogen dissolves in absolute alcohol without decomposition; but if the solution be allowed to stand for a few hours, it decomposes. He described an apparatus for introducing the chloride of nitrogen into the alcohol, and mentioned the character of the reaction which took place.

UREA AS A DIRECT SOURCE OF NITROGEN IN VEGETATION. BY PROFESSOR CAMERON.

The author showed that nitrogen was as available as food for plants, when a constituent for urea, as in its ammoniacal combination; or, in other words, that urea, without being converted into ammonia, may be taken up into the organisms of plants, and there supply the necessary quantity of nitrogen. He described the experiments which led him to this conclusion, which were very elaborate, and were made on barley plants in confined spaces supplied with air freed from ammonia. The following conclusions were deducible from the results of his experiments, viz.:—1. That the perfect development of barley can take place, under certain conditions, in soil and air destitute of ammonia and its compounds. 2. That urea in solution is capable of being taken unchanged into the organisms of plants. 3. That urea need not be converted into ammonia before its nitrogen becomes available for the purposes of vegetation. 4. That the fertilising effects of urea are little if at all inferior to the salts of ammonia. 5. That there exists no necessity for allowing drainings or other fertilizing substances containing urea to ferment; but that, on the contrary, greater benefits must be derived from their application in the recent or unfermented condition.

THE CHEMICAL PROPERTIES OF THE POTATO, AND ITS USES AS A GENERAL ARTICLE OF COMMERCE, IF PROPERLY MANIPULATED. BY MR. J. W. ROGERS.

The object of the paper was to show that the matter of the potato was in reality equal in nutritive value to the dry matter of wheat, whilst the quantum of food produced from a given quantity of land was nearly four times that produced from wheat. Mr. Rogers exhibited some interesting specimens of the production of the potato in meal, flour, etc.; and gave the following results of analysis:—

	Starch.	Gluten.	Oil.
Components of the potato per cwt.	84·077lb.	14·818lb.	1·104lb.
Do. of wheat	78·199	17·536	4·265

And he gave the following important fact as to the quantum of food from an acre of land:—

	Starch.	Gluten.	Oil.
Dry matter of potato	3,427lb.	604lb.	45lb.
Dry matter of wheat	825	185	45

Subsection of Physiological Science.

ON CERTAIN *à priori* PRINCIPLES OF BIOLOGY. BY PROFESSOR ALISON, M.D.

Professor Laycock read an abstract of the paper. The writer stated that there were certain principles which should be admitted, and that they formed the same basis for physiological science as the axioms of geometry did for that science, and as certain inductive principles for the science of morals. It might be said that the object of the paper was to apply the doctrine of the Scotch school of metaphysics to physiological science; but on account of the recent illness of the distinguished author the communication was incomplete.

Dr. W. T. Gairdner, as a pupil of Professor Alison, explained the nature and object of his distinguished preceptor's views, which he said were chiefly directed to oppose the modern tendency of medical investigation, which he regarded as likely to degrade the science to that of a subordinate department of chemistry on the one hand, and of mechanical science on the other, omitting all consideration of that high though less intelligible class of phenomena which were known to be vital.

CONNECTION OF ATMOSPHERIC VICISSITUDES WITH EPIDEMIC DISEASE. BY DR. F. POZNANSKI, OF WILNA, RUSSIA.

Starting from the principle that circulation and respiration diminish under the influence of condensed air, and that during the cholera epidemic there prevails an excess of atmospheric pressure with its consequences, Dr. Poznanski undertook, during the cholera epidemics of 1848 and 1853, two series of observations, in order to determine the signs of imminence of cholera, or rather of epidemic predisposition. He directed his attention especially to the change of the pulse. These observations, carried out on both occasions on three hundred healthy persons at Wilna in a prison, and at St. Petersburgh on a regiment of the imperial guards, were repeated daily for several

successive months, and furnished the following results:—1. During cholera epidemics, many individuals—although in the enjoyment of good health—are affected by a very striking diminution of the pulse, as low as 45, and even 42 pulsations in a minute. 2nd. This diminution is not accompanied generally by any morbid symptoms or indication. 3rd. In proportion to the diminution of the circulation, the blood becomes black and viscid, and, on the contrary, it remains normal during the epidemic, amongst those individuals who are not affected by the diminution in question. 4th. The cases of cholera occur only with individuals previously affected with diminution of the circulation. 5th. The slackening of the pulse, which often precedes the choleraic symptoms for several weeks, may be considered as a pathognomonic sign of the imminence of cholera. 6th. The individuals who manifested signs of this imminence have always avoided the attack of cholera, if they have accelerated the circulation of the blood by suitable treatment, regimen, etc. 7th. The slackening of the pulse, as well as predisposition and choleraic attacks, have in general been proportioned to the defect of energy in the circulation, and to the excess of atmospheric pressure. 8th. This slackening does not occur among the healthy when the epidemic has definitively ceased. The author grouped into the following sections the phenomena characterising the three periods of cholera:—(*a*) Stage of choleraic predisposition—Slackening of the circulation; (*b*) Collapse stage—Primary stagnation; (*c*) Typhoid stage produced by the consecutive stagnation. In considering attentively, on the one hand, the characteristic symptoms of cholera, and on the other the well-known signs presented by the organism when subjected to an excessive atmospherical pressure, we arrive at the conviction that these symptoms resemble each other to such a degree, that they may be regarded as completely identical. This identity, and the influence of the air in producing the epidemic, are amply confirmed by the following facts:—1. Cholera is endemic in countries exposed to an excessive atmospheric pressure, as the East Indies, South Carolina, and other countries of the same nature of atmosphere. 2. Cholera epidemics have always been preceded and accompanied by an excess of atmospheric pressure, and their intensity has always been in proportion to this excess—as would appear by the published diagrams attesting such a relation observed at London, Paris, and St. Petersburgh. 3. Cholera rages principally on the banks of rivers, the sea shores, in low grounds, valleys, etc. The constant relation between the strength of the cholera epidemic and the lowness of the ground has been proved by most careful observations made in England, and chiefly in London. The same relation has been equally evident at Paris, and in France generally. The departments and *arrondissements* in which the air was most confined always suffered most. It is known that the central departments of France, as also Switzerland, have always been almost entirely free from epidemics. In Russia, the countries which border the Caspian sea, the level of which is six hundred feet below that of the Mediterranean, have always been the cradle of cholera epidemics. 4. Cholera epidemics are always propagated in the direction of low grounds, banks of rivers, and other depressed localities. This is the origin of the popular opinion that this epidemic follows the watercourse. Besides, the great plain which extends from the Caspian Sea to Paris and London has been the path followed by the cholera in Europe. The constant proportion observed between the intensity of cholera epidemic, and the size of the harbours, confirms also the influence of the depression of the ground. For it is quite evident that the size and depth of the harbour depend chiefly on the lowness of the land, without which the water would have taken a totally different direction. 5. The mountain heights have hitherto been free from this epidemic, a circumstance which has induced people to take refuge there generally against this scourge. 6. The specific gravity of the air increases during the cholera epidemic, as has been proved by the observations made by Prout. 7. The cholera epidemic is generally preceded and accompanied by an extraordinary calm, which proves the condensation of the atmosphere; on the contrary, the epidemic ceases ordinarily or diminishes after the storm necessarily connected with the rarefication of the air. 8. If there is any wind during the reign of the epidemic, it is generally dry; and the epidemic extends in a direction contrary to the wind, because the air is condensed in that direction. This observation, while compromising the miasmatic theory, forcibly corroborates the present one. 9. The epidemic produces, in general, uneasiness and the deterioration of the blood; these effects can only be caused by an agent like the air universally diffused. 10. Occupations which demand an exercise adapted to augment the active force, such as those of blacksmith, coppersmith, etc., protect to a certain extent against attacks of cholera, whilst sedentary life predisposes to this disorder. This circumstance has led to the idea of copper preserving from cholera. 11. The agents recognised as pernicious during the cholera are precisely those which diminish the active force; whereas the influences which excite and increase it in a direction contrary to the epidemic. The bleeding employed in the first moments of stagnation, before the coagulation of the blood, cures the cholera at the very moment of operation, which proves that the cholera depends on a mechanical impediment. 12. According to observations of Dr. Caspar, cases of sudden death become, in general, more frequent as the barometric elevation increases. The same circumstance has been noticed during the prevalence of cholera. It must be concluded, from all those facts and observations, that cholera is no other than the result of an excess of atmospheric pressure. The intimate relation between atmospheric pressure and the cholera epidemic once firmly established, the mystery attending this disorder will disappear of itself. We shall then find perfectly natural and intelligible its endemic existence in some localities, and its entire absence from others,—the manner of its propagation and extension by the way of low localities, and in a direction opposed to the wind, at the same time sparing the elevated places,—the rapidity with which the cholera epidemic may be developed and may disappear,—the action of the different agents recognised as salutary or injurious in cholera.—the decided predisposition to the cholera exhibited by some individuals, and, on the contrary, the almost absolute exemption enjoyed by other persons—and in all cases according to the prevalence of their active force. The primary cause of epidemic cholera, consisting in an excess of atmospheric pressure, and the proximate cause being in a stagnation of the blood with its consequences, protection from this malady will be secured by recourse to those agents which sustain the energy of the circulation of the blood and respiration, as soon as there is observed the slackening of the pulse. These agents must, in this respect, be considered as preservatives.

THE ORIENTAL BATH. BY DR. HAUGHTON.

Some months ago, his attention being drawn to the Oriental Bath as a sanitary institution, Dr. Haughton was induced to undertake a journey to the East, for the express purpose of determining what were its claims to consideration; with this view he remained a month in Constantinople. This bath is best known to the western nations by the name of "The Turkish Bath;" but there is scarcely a nation in the East which does not possess a somewhat similar institution. There is a prevailing prejudice that the eastern bath is only suited for tropical climates, and could not be adopted in these latitudes without danger; but not only the ancient Greeks, but also the Romans, were acquainted with its virtues, and thought no expense too great to enable them to confer upon every citizen the luxury of cleanliness, the foundation of all sanitation. It was the custom of the Romans to build baths in the different countries which they conquered. Justin informs us that they introduced them into Spain, after the second Punic war, where they continued in operation long after their suppression in other parts of Europe. From thence they passed into Germany and France, and even into the British Islands; and there is reason to believe, that were antiquarian research directed to this point, remains would be found in these countries, not upon the same scale as those of France and Germany, but sufficiently perfect to show the principle upon which they were constructed. It is of great importance that this principle should be well understood, and especially that we should observe the difference between it and the Russian vapour bath, which it most resembles. It is simply that of an oven, large enough to walk about in, and lighted from the top. The medium by which the bather is surrounded is hot air, containing a little moisture, that the tissues may not experience too great desiccation from its contact, and that the softening of the loosened scales of epidermis, which is so essential, may be the sooner effected. In this bath, water is not absorbed by the skin, as in the Russian vapour baths, or the steam baths of this country; but it is, on the contrary, given out by both the pulmonary and cutaneous surfaces in great abundance. The first chamber which is entered serves as a dressing-room, where the clothes are deposited previous to entering the hot chambers, and where the bather remains to cool himself on leaving them. For this reason it was called

the *frigidarium* by the Romans, although the temperature is about 77° Fahr., or something over summer heat. The next room is about 95° Fahr., and is called the *tepidarium*, where the bather reclines, and drinks some hot coffee, or smokes, until he is in the proper condition for entering the third chamber. Dr. Haughton in no instance found the heat of the third chamber above 40° centigrade (104° Fahrenheit). Were it considered necessary, however, an enormous heat could be endured in the oriental bath. A French gentleman, who was nearly suffocated by the vapour of the baths of Nero, near Pozzuoli, in a temperature of 122° Fahrenheit, was able to bear a heat of 176° Fahrenheit in dry air, without inconvenience. The floor of the bath being the hottest part, the stratum of air next it ascends continually, carrying with it the superfluous vapour, which condenses upon the roof, and creates an imperceptible current, which suffices to purify the atmosphere. In the third or hot chamber, corresponding to the *laconicum* of the Spartans, and the *calidarium* of the Romans, the bather is shampooed—a kind of kneading of the muscles; and the dead skin, with its adherent impurities, is removed by means of the goat's-hair glove. The amount of extraneous matter which is thus collected from the most clean person, will excite some surprise in those only accustomed to the use of soap and water. After the use of the glove, the bather is next thoroughly washed with soap and hot water, performing part of the washing himself, as he is never naked during any part of the bath, the Turks especially being most scrupulous in this respect. When he gets up, he puts on a pair of wooden pattens, to keep his feet off the hot floor, and returns to the second chamber, where he is lightly wiped, and again clad with warm towels; the head being bound up, to avoid taking cold. The bath is now finished, but it would be imprudent to go out without remaining some time in the *frigidarium* to become cool. Here it is customary to lie down, well swathed in towels, and to drink some sherbet or coffee, and smoke. Nor does the bather require much persuasion to induce him to stop, as the sensations are so delicious that it is only necessary to lie still to enjoy a mental calm and exquisite consciousness of health that few of us have ever experienced. Here we have a pleasure which is not a vice—a luxury which does *not* tend to shorten life; and which only awaits a sufficient demand to give encouragement to capital, that it may become at once cheap and universally attainable. There is no drug in the Materia Medica at all comparable with it as a purifier of the blood; for even poisons are thus eliminated from the system; and it is well known that alcohol is frequently taken by the Turks in large quantities without producing inebriation. Besides which, they enjoy an immunity more or less complete from various diseases, which would be quite unaccountable were the influence of the bath to be denied. Gout is scarcely known; rheumatism is rare, and soon cured; workers in lead-paints seldom are affected by colica pictonum: chronic skin diseases are very rare, and pulmonary consumption much less common than with us. The Turks have always considered the public baths of Constantinople as supplying the place of a certain number of hospitals, which must otherwise be built. Of the former there are 300 open to the public, and every gentleman who can afford it has a private one in his own house; while there are only two or three public civil hospitals for a population of 900,000 souls; nor were these at all crowded when Dr. Haughton was in Constantinople. It may perhaps be said that the oriental bath has been discontinued in the West of Europe because it was found unsuited for the climate and the genius of the people; but history furnishes other reasons to account for its disappearance: luxury and depravity did indeed enter the sanctuary, and, in the endeavour to suppress them, the temple of cleanliness was destroyed. In the time of Constantine, a regular crusade was waged against them by the clergy; and, the civil power being placed in their hands almost without restriction, they destroyed at one fell swoop the two greatest bulwarks by which the physical energy of the people had been preserved—bodily exercise capable of acting upon the entire muscular system, and a habit of cleansing the entire body. Thus fell the baths and gymnasia of Europe. The ancient bath is worthy of restoration, both as a hygienic and remedial agent. A beginning has already been made, and a building of this kind has been lately opened in the neighbourhood of Cork.

ON THE MORTALITY OF CERTAIN DISEASES.

BY W. T. GAIRDNER, M.D.EDIN.

A few years since, with the assistance of a considerable number of medical friends, Dr. Gairdner made a collection of about 270 cases of fatal diseases, in proportions pretty equally derived from hospitals and from other sources, which series of cases might be regarded as exhibiting, not very unfairly, the ordinary mortality of Edinburgh, in a season free from remarkable epidemic disease. The returns received represented all classes of the population, and nearly all ages, in something like the normal proportion. The facts bearing on the fatal event were usually stated in some detail, and not, as in most returns of mortality, by merely attaching an arbitrary name to the symptoms. Thus it soon became apparent that any attempt to assign each death to one cause only, must be arbitrary in the extreme, and must lead to grave inaccuracy. In fact, it has been clearly shown that men rarely die of one single disease: almost always there are complex conditions which cannot be, and ought not to be, rendered into a single form of expression. No doubt, one morbid form often predominates, and gives a character to the rest; but not less frequently it is entirely a matter of reasoning, and, therefore, of some degree of doubt, what is the primary and what the secondary disease. The consideration of these circumstances induced Dr. Gairdner's associates and himself, in recording the results of their joint inquiries, to adopt a peculiar plan. Instead of registering one cause of death—one fatal disease—in each case, they determined to register as many as were clearly presented by the accounts of the morbid history. Thus, a result was obtained widely differing from that of the Registrar-General. First in importance, as in frequency, is tubercular disease, in the general sense, with its most frequent special form, *phthisis pulmonalis*. According to Dr. Gairdner's returns, the former is a cause of death to about one-fourth, the latter to rather more than one-fifth of the population included in these inquiries. According to the Registrar-General, the proportions in London were, in 1854, less than one-seventh of the whole mortality for tubercular disease, and less than one-tenth for phthisis pulmonalis. Diarrhœa is enormously underrated in the Registrar-General's returns. It is, in fact, entitled to be registered as a source of mortality in little less than one-fourth of the population of Edinburgh: in other words, of one hundred who die, not less than from twenty to twenty-five owe their death in some degree to diarrhœa. In the Registrar-General's returns, it is only in cholera years that the cypher of diarrhœa reaches anything like this proportion: the proportion being, in ordinary years, from 1-78th to 1-20th of the general mortality. It is obvious that the residual cases, or those merged and lost sight of by the Registrar-General, are cases of complicated, but not on that account less real or less fatal diarrhœa; such cases are, in fact, an immense majority of the cases of this disease. Disease of the heart, in one form or other, is the cause of death to not much less than one-eighth of the population. The returns for London in 1840, show this cause of death as only affecting one fiftieth of the population; since this period, however, the proportion has been gradually rising, evidently owing to the increased care of medical practitioners in reporting, and perhaps also of the Registrar-General in extracting from the reports, the cases to be placed under this head. Dr. Gairdner finds no reason for adopting the popular theory, that disease of the heart is in reality on the increase. Pneumonia was fatal to 1-11th; pleurisy (often combined with pneumonia) to 1-12th; bronchitis to 1-9th of the population under his observation. These causes of death, also, are considerably understated in the registrar's returns; and there is this additional anomaly, that while in the first of the reports of mortality in London the proportion of bronchitis was exceedingly small, it has now come to be for many years the preponderating form of chest disease, and counts its victims by hundreds, where it formerly counted them by tens. Next follows Bright's disease, including some of the allied diseases of the kidney. These morbid conditions he has found to be a source of mortality to about a tenth of the cases observed by himself and his associates. In the Registrar-General's reports for London, on the other hand, Bright's disease constitutes in general terms not more than 1-380th of the gross mortality.

ALTERNATION OF GENERATIONS AND PARTHENOGENESIS IN PLANTS AND ANIMALS. BY E. LANKESTER, M.D., F.R.S.

After alluding to the phenomena of alternation as described by Steenstrup in the Entozoa, Medusæ, and Sertularian polyps, and to the phenomena of Parthenogenesis, described by Owen and Von Siebold, the author concluded his paper as follows: "If we turn now to the vegetable kingdom, we find perfectly analogous phenomena presenting themselves. In fact, the modifications of the reproductive function, which have recently excited so much surprise in the animal kingdom, are

the normal forms of the function among plants. In the roots and branches of a tree we have a gigantic 'nurse,' and the buds are its progeny. Just as we find the same secondary products called 'gemmæ,' in animals either remaining adherent to their parent-stocks, as in the Sertularian and other zoophytes, or floating off, as in Hydra and many others, so we find the buds of plants remaining attached to the tree, or becoming separated from it. Just, too, as we find a different form assumed by the secondary offspring of the 'nurse,' as in the scolex-head of the cystic-worm, so we find in such cases as those presented by the 'bulbillus,' the 'bulb,' and the 'sporule,' different forms assumed by parts having the same relations in the plant as in the animal. So likewise in the plant we find a greater change of the secondary offspring taking place, when sexes are developed and flowers are produced, and the hermaphrodite flower, with its stamens and pistils, is the representative of the segments (proglottides) of the tape-worm, with its male and female apparatus in a common envelope. We may go yet further with our analogies in the vegetable kingdom. Here also we have numerous cases in which the germ-cell, the ovule, is produced, and developes within itself an embryo, quite independent of the influence of the sperm-cell, the pollen."

Professor Allman thought Dr. Lankester's nomenclature very clear and intelligible; and he believed by its aid inquiries into the curious and difficult subject he had brought before the Section would be facilitated.

Dr. Baird could confirm the statements made by Dr. Lankester with regard to the Entomostracous Crustacea. In the case of the ordinary *Daphnia pulex*, he had observed seven generations of young without the existence of males amongst them.

THE FLOW OF THE CHYLE IN THE LACTEAL SYSTEM. BY MR. LISTER.

The author had made a series of observations on the lacteals of mice under the influence of chloroform. He found the chyle flowing equably without contraction, and the chyle corpuscles very close to the origin of the vessels. He had in vain endeavoured to cause small particles of coloured matter, as indigo, etc., to pass into the lacteals.

ACTION OF THE AURICULO-VENTRICULAR VALVES OF THE HEART. BY W. T. GAIRDNER, M.D.

Dr. Gairdner had frequently found two auriculo-ventricular regurgitant murmurs, which were not fully explained by the *post mortem* appearances. He pointed out anatomical conditions of the valves at the time of their tension, which he believed have not been sufficiently attended to, and that these explained the occurrence in certain otherwise obscure cases of regurgitant murmurs without organic lesions of the valves or dilatation of the orifices.

CERTAIN PATHOLOGICAL CHARACTERS OF THE BLOOD-CORPUSCLES. BY MR. J. B. HENNESSY.

Mr. Hennessy stated the results of his microscopical observations on, first, healthy blood; and on, secondly, inflamed blood. The result to which he directed particular attention was, that in inflamed blood the corpuscles were smaller and darker than in healthy blood. In corroboration of his views, he quoted the remarks of M. Donné, of Mr. Wharton Jones, Mr. Gulliver, and many others, upon this change of size. Mr. Hennessy founded a theory of inflammation through increase of temperature, the occurrence of the buffy coat and the other phenomena being satisfactorily explained.

THE IMPORTANCE OF INTRODUCING A NEW AND UNIFORM STANDARD OF MICROMETRIC MEASUREMENT. BY PROFESSOR LYONS.

Dr. Lyons alluded to the great difficulties experienced by observers in enumerating, rendering, and even remembering, the various kinds of measures now in use in these countries and on the Continent, portions of the English, Irish, and French inch and line, and decimal parts of the French millimètre. The high figure in the denominator and the number of decimal places were exceedingly cumbrous. He (Dr. Lyons) would propose that some definite micrometric integer should be assumed, being a determinate part of unity. He proposed that this measure should be denominated a *microline*. He did not mean definitively to bind himself to the adoption of any standard, but would propose provisionally that the one ten-thousandth part of the English inch should be assumed and denominated the standard microline *pro tem*. He would, however, have his hearers bear in mind the present tendency of scientific men towards a decimal system. For his own part, he would prefer the French decimal scale.

Editor's Letter Box.

FEES FROM ASSURANCE OFFICES.

Letter from C. Radclyffe Hall, M.D.

Sir,—As the inclosed correspondence touches upon a matter in which an imposition is not uncommonly attempted to be practised upon the profession in general, you may consider it worth publication. The half-guinea was given to the Torbay Infirmary. I am, etc.,

C. Radclyffe Hall.

Torquay, September 26th, 1857.

"Torquay, September 16th, 1857.

"Sir,—I return the post-office order for 10*s.* 6*d.* tendered me as my medical fee for examining Mr. —— for insuring his life in your office. My fee is the usual one of a guinea. If you decline paying this, I must make you a present of my services on this occasion.

"The plan of offering half the usual fee is neither just nor (I think) politic. You expect and have the same care, exactness, and time, from your medical referee, whether the sum insured be £50 or £5,000. I expect you do not offer a fee of £5:5 when the sum to be insured is £2,000! Why then should you *diminish* your fee *below* the fair and customary honorarium when the sum insured is small, if you do not *raise* the fee *above* it when the sum insured is large? I was occupied for one hour in making a conscientious examination, for your benefit, in this instance. Had I received any intimation from you beforehand that you should not pay me the usual fee, I need not say I should have preferred a more remunerative occupation of my time. It is nothing to me that, after receiving my certificate, you decide upon so small an insurance as £100; that is your concern. My concern is to act conscientiously in forming and communicating to you my opinion, and to be adequately remunerated.

"The plan is impolitic. Members of the medical profession will naturally oppose offices which treat them illiberally, and support offices which have always dealt justly towards them. It might even tempt the examiner to make the most favourable report he possibly could: and, although you may safely trust that the members of the medical profession will give an honest opinion if they give an opinion at all, whether adequately or inadequately paid, still you have no right to trade upon their integrity. "I am, sir, your obedient servant,

"C. Radclyffe Hall.

"To the Secretary of the Unity Life Office."

"Unity General Assurance Association, Chief Offices, Unity Buildings, Cannon Street, City, London, E. C., Sept. 17th, 1857.

"Sir,—I beg to acknowledge the receipt of your letter of yesterday's date, and am much concerned at its contents.

"I do not wish for a moment to regard the fee of half a guinea as an equivalent for the services you have performed. It is regulated, not by that comparison, but by a fixed scale, which has been acted upon by this and most respectable offices during the last seven years; viz., half a guinea when the assurance is for a less sum than £500, and a guinea in all other cases. You are mistaken also in supposing that the sum of £100 was fixed upon by us. It was the applicant's original proposal; and *our decision*, after carefully considering your report, was *to decline the proposal altogether*.

"Will you allow me to thank you for your report, and trust you will regard the disproportion of the fee, not as a sign of illiberality on the part of the office, but as arising from the fact that the addition (for expenses) to the mathematical premium charged by the office is very small. I return the post-office order, and am, sir, "Yours respectfully,

"Thomas Gray, *Manager's Secretary*,

"*Per* F. L. H. Collins.

"C. Radclyffe Hall, Esq., Torquay."

"Plymswood, Torquay, September 19th, 1857.

"Sir,—I beg to acknowledge your last. I see nothing in what you state to qualify my opinion that an insurance office has no right to expect services from the medical profession at less than a fair and usual rate of remuneration. I have personal reasons for knowing that very many offices manage to transact a large amount of business without attempting to *half-pay* their medical referees; and I have little doubt that, at this moment, your own office gives 5 per cent. per annum on the premium paid to any solicitor who recommends an appli-

cant. That it should attempt to save half a guinea at the expense of the time and mind of a medical man when the sum insured is less than £500, is surely illiberal dealing, to which the profession, if they be wise, will decline, as I now do, to submit.

"I re-enclose the post-office order. It is at your option whether you send me a just fee or nothing. Should the present sum be returned to me, to put an end to the mere sending of it to and fro, I shall hand it over to the Infirmary here, as a half-payment of a medical fee by the Unity Life Office, which the physician refused to accept!

"I remain your obedient servant, "C. R. Hall.

"To the Secretary of the Unity Life Office."

"Unity General Assurance Association, Chief Offices, Unity Buildings, Cannon Street, City, London, E. C., Sept. 21st, 1857.

"Sir,—I beg to acknowledge the receipt of your letter of the 19th instant, and am sorry that you still decline to receive the fee of 10*s.* 6*d.*

"Will you do me the favour to sign the inclosed post-office order, and forward it either to the Secretary of the Infirmary or to the collector of subscriptions for the relief of Indian sufferers, as you may select?

"I am, sir, your obedient servant,
"Thomas Gray, *Manager's Secretary*,
"*Per* F. L. H. Collins.

"C. Radclyffe Hall, Esq., Torquay."

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

In these lists, an asterisk is prefixed to the names of Members of the Association.

BIRTHS.

Birkett. On September 27th, at 59, Green Street, Grosvenor Square, the wife of *John Birkett, Esq., Surgeon, of a daughter.

Braid. On September 16th, at Springfield, Neston, Cheshire, the wife of James Braid, M.D., of a daughter.

Canton. On September 28th, at 17, Great Marlborough Street, the wife of Alfred Canton, Esq., Surgeon, of a son.

Fairless. On September 25th, at Hexham, Northumberland, the wife of William Dean Fairless, M.D., of a son.

Findlay. On June 30th, at Portland, Victoria, the wife of John Findlay, M.D., Surgeon R.N., of a daughter.

Nicol. On September 28th, at Swansea, the wife of *D. Nicol, M.D., of a daughter.

Partridge. On September 26th, at New Street, Spring Gardens, the wife of Richard Partridge, Esq., Surgeon, of a son.

Prance. On August 27th, at Heath Mount, Hampstead, the wife of *Robert R. Prance, M.D., of a daughter.

MARRIAGES.

Holland—M'Donald. Holland, John Yate, Esq., Lieutenant and Adjutant of the Portsmouth Division Royal Marines Light Infantry, to Fanny, second daughter of Thomas Wallis M'Donald, Esq., Deputy-Inspector of Hospitals and Fleets, at Great Yarmouth, on September 23rd.

Hutchinson—Hutchinson. Hutchinson, Thomas S., Esq., Surgeon, Sutton, Surrey, to Jane Smith, only surviving daughter of William Hutchinson, Esq., of Kilclogh, county Cork, at Kilworth, on September 23rd.

Newman—Newton. *Newman, William, Esq., Surgeon, Fulbeck, near Grantham, to Sarah Tinley, eldest daughter of the late William Newton, Esq., of Ewerby Thorpe and Sudbrooke Heath, Lincolnshire, at Ancaster, on September 10th.

DEATHS.

Becher. On August 2nd, at Barrackpore, Calcutta, of cholera, Elizabeth Miller, wife of Richard A. Becher, Esq., 43rd Bengal Native Infantry, and second daughter of *Philip C. De la Garde, Esq., of Exeter; also, on July 21st, Millie Harriet, her infant daughter.

Blathwayt. On September 20th, at Manby, near Louth, Lincolnshire, Judith, wife of W. Blathwayt, M.D., aged 40.

Drayton, George Box, Esq., Surgeon, formerly of Gloucester, at Islington, aged 73, on September 19th.

Fairless. On September 23rd, at Hexham, Northumberland, Joseph James Douglas, second son of William Dean Fairless, M.D., aged 14 months.

Home, George, Esq., Staff-Surgeon, at York, on Sept. 28th.

*Ogle, James Adey, M.D., F.R.S., at Old Shoreham, aged 64, on September 25th, after an illness of thirty hours. Dr. Ogle was a member of Trinity College, Oxford. In 1820 he became a doctor of Medicine; and in 1824, on the resignation of Dr. Bourne, he was elected by Convocation to fill the Aldrichian Professorship of Medicine. In 1825 he was for one term Mathematical Examiner. In 1830, on the death of Dr. Bourne, he was elected by Convocation Clinical Professor; and in 1851, on the decease of Dr. Kidd, he was appointed by the Crown to the Regius Professorship of Medicine, to which were then attached the Aldrichian Professorship and the Tomline Readership in Anatomy. Dr. Ogle also held the office for two years of Examiner in the School of Natural Science, established in 1854. In 1851, he was chosen President-elect of the then Provincial Medical and Surgical Association, and presided over the annual meeting held in Oxford in 1852.

Semple, William, Esq., Surgeon, at 38, Upper Street, Islington, on September 26th.

Sweeny, Charles Stewart, M.D., at Lancing, aged 43, on September 25th.

APPOINTMENTS.

Barnes, Robert, M.D., elected Physician to the Royal Maternity Charity.

HEALTH OF LONDON:—WEEK ENDING SEPTEMBER 26TH, 1857.

[*From the Registrar-General's Report.*]

The total number of deaths registered in London in the week that ended on Saturday (September 26th) is 1002, and exhibits an increase on that of the previous week, which was 946. In the ten years 1847-56, the average number of deaths in the weeks corresponding with last week was 1239. But the deaths of last week occurred in an increased population, and if for the purpose of comparison the average is raised in proportion to the increase, it will become 1363. The difference between the deaths now returned and the corrected average is 361, which, though it arises in part from the high rate of mortality at two periods when cholera was epidemic, is to be attributed in a much greater degree to the improved state of health which London enjoys at the present time, and to that reduction of the mortality which is its necessary result.

Under the influence of a falling temperature, the mortality from diarrhœa is now fast subsiding to its ordinary weekly amount. In the two previous weeks, the deaths from it were 144 and 111; last week they were 83. Its rise and fall have been extended over a period of thirteen weeks: and in that time the mean weekly temperature has declined from 68° to 59°. In addition to the 83 deaths from diarrhœa, dysentery was fatal to seven persons, and cholera to three persons (all the latter being adults). Amongst the cholera cases, a seaman is reported, who died at Horsleydown of "cholera Asiatica", after nineteen hours illness, on board of a ship which in its voyage to London had touched for nearly a day at Gluckstadt (on the Elbe, thirty miles below Hamburg), where the disease has lately prevailed. Next to diarrhœa, the most fatal in the zymotic class of diseases is typhus (with common fever), which carried off 52 persons; then scarlatina, of which 34 children died; four of these in the Belgrave sub-district, and four in Mile End Old Town Upper. Thirteen children died of inanition and want of breast-milk; two persons of intemperance; five widows had attained the age of 90 years and upwards, viz., three who were 90 years old, one 93, and one who died near Tottenham Court Road at the age of 94 years.

Last week the births of 886 boys and 820 girls, in all 1706 children, were registered in London. In the ten corresponding weeks of the years 1847-56, the average number was 1524.

At the Royal Observatory, Greenwich, the mean height of the barometer in the week was 29·935 in. On the first three days, the mean daily reading was above 30 in. The highest barometrical pressure occurred on Sunday (the 20th), and was 30·24 in. The mean temperature of the week was 59·1°, which is 3·9° above the average of the same week in 43 years (as determined by Mr. Glaisher). The mean daily temperature was above the average throughout, except on Monday. The highest temperature in the shade occurred on Thursday, and

was 73·6°; the lowest occurred on Monday, and was 41·5°. The entire thermometrical range of the week was therefore 32·1°. The mean dew-point temperature was 53·4°, and the difference between this and the mean air temperature was 5·7°. The wind was generally in the north-east, till Tuesday afternoon, it then changed to south-east, and on the last two days was for the most part in the south-west. Rain fell to the depth of 0·46 in., of which 0·28 in. fell on Friday.

Summer Mourning for Females. Dr. F. J. Brown, of Chatham, writing in the *Sanitary Review* for the present month, says:—"The higher temperature of dark-coloured than of light-coloured clothes, when exposed to the rays of the sun, is a fact well known to the public. It is in consequence of the appreciation of this difference in effects of colour, that we see so many persons dressed in light-coloured garments during the summer months. It is desirable that change of colour in articles of dress, according to season, should become the custom with men as well as with women, instead of being exceptional as it is at present. The black hat, with the black cloth clothes, cause men to experience distress that is wholly unnecessary. The unwritten laws of society are binding upon civilised men, but they must not be carried out to the extent of inflicting useless suffering. Men living in communities, however, do rightly submit to rules of conduct, and also to rules relating to dress. It is proper, therefore, to change the public customs rather than to liberate men from the control of public opinion. It is common for the observation to be made by those that have returned from warm climates, that the heat in England, in the summer, is less patiently borne than it is in hot countries. This circumstance is due to the insufficient difference that is made betwixt winter and summer clothing, particularly as regards colour. The natives of hot countries commonly wear white or light-coloured articles of dress in the hot season, and they practise every method that is available to nullify the effects of solar heat upon their bodies; and Europeans on the continent follow their example to some extent. In England, on the contrary, great pains are taken to guard against the effects of cold; and the hot weather is considered by the public as something good because it is opposed to "cold." The proper course to follow is to moderate the effects of cold in the winter, and of heat in the summer. It is well known that both cold and heat in excess are injurious to health. The tables of mortality show an increase in the number of deaths from pulmonary affections when the thermometer falls in winter, and an augmentation in the mortality of diarrhœa when the temperature rises high in summer; and the increase corresponds accurately, allowing for disturbing causes, with the fall or rise of the thermometer respectively. Women readily exchange their winter garments for those suitable for summer; but, under circumstances of mourning, they are cruelly compelled by custom to move about under a load of black crape. It is to liberate them from this misery that the present article is written. Many widows suffer from nervous headache in consequence of night-watching, anxiety, and grief; and this form of headache is converted into congestion of the bloodvessels of the head by exposure to the sun in black bonnets and dresses. There are numerous instances of widows remaining within doors for months together, to the great injury of their health, rather than endure the misery of sun broiling. The remedy is very simple. Let summer mourning become customary. Let light-coloured clothing be worn, trimmed with thin black edging. There is such an article as white crape; but it indicates slight mourning. Either white crape should be worn as summer mourning, or small-sized black edging to light-coloured dresses; and bonnets should be introduced into general use for the purpose. The milliners can best manage the details: it is for physicians to point out the propriety of the change in custom."

Preservation of Food. Dr. Spence, of Lerwick, has communicated to the *Sanitary Review* for the present month the following interesting note respecting the preservation of animal food:—"In October 1823, when Parry returned from his second Arctic expedition to Lerwick Harbour, he presented to my father, the late William Spence, Esq., Surgeon to the Forces, two tins of preserved soup, with a request that they might be kept unopened as long as the contents could be reasonably expected to continue sound and fit for use. They were put aside and almost forgotten, until the 14th of July of the current year; when, having read the article on the Preservation of Food in No. VIII of the *Sanitary Review*, I was reminded of their existence, and determined on opening them. The insides of the tins were white and untarnished, and the contents were free from any unpleasant odour or flavour. One of them contained concentrated meat soup, and the other vegetable soup. I submitted them to various individuals, who, though at first rather chary of tasting them, declared them to be perfectly fresh. I had the contents of the two tins mixed and warmed for dinner, and I certainly never tasted better soup. The expedition sailed from England on the 29th of April, 1821, so that the soups must have been rather more than thirty-six years old, and must have passed two winters in the Arctic regions. In the published account of the expedition, it appears that these soups were prepared by Messrs. Gamble and Co."

Cholera. We are informed by our correspondent Dr. Webster, who has just returned from an extensive tour in Scandinavia, that epidemic cholera prevails with much virulence throughout the northern districts of Europe. At Upsala and Stockholm, especially at the former city, the malady has proved unusually severe and fatal. At Christiansand in Norway, in Copenhagen, and at Corsœr, on the west coast of Zealand, it has also proved very violent. We trust these outbreaks are not the forerunners of the disease in these islands. (*Sanitary Review.*)

The Wandsworth Sanitary District. The Medical Officers of Health for the Wandsworth district, after labouring for the sanitary improvement of their respective parishes, and producing a series of very able reports, have come under the ban of their penny-wise-and-pound-foolish Board. Their salaries are to be reduced to an absurd minimum; and even their motives are questioned by the narrow sighted politicians whose servants they unfortunately are. We recommend these political gentlemen to learn the motto on our title-page—"National Health is National Wealth." (*Sanitary Review*, October 1857.)

Clinical Teaching. We have to congratulate the students of Edinburgh on the recent enlargement of their opportunities of clinical study. After considerable agitation of the question, and several failures, it was at length arranged last session, that the medical and surgical clinical instructions should be delivered at different hours, so that the same students might attend both; the surgical at twelve, the medical at one o'clock. Some little personal inconveniences to several of the teachers, which stood in the way, were at last overcome, for these were not to be weighed in the balance against so vast an improvement to our clinical department; and it is, of course, impossible that every teacher should have the hour of lecture which most suits his convenience or pleasure. We confess we would rather see some of our courses of lectures suppressed altogether, or blotted from the curriculum, than that this improvement should not be carried fully out. At any rate, some of our winter courses might with advantage be transferred to the summer session. We trust that no new obstacles will be thrown in the way. The managers of the hospital have sanctioned the change; the dispensaries have changed their visit hour to two o'clock; and the College of Surgeons have cancelled a bye-law which had the appearance of requiring that clinical surgery and clinical medicine be not attended during the same session. Nothing further is required than that the anatomy lectures be delivered at two o'clock, instead of, as hitherto, at one. We know of no good reason why it should not be so. It was supposed that this would interfere with the Natural History class, which formerly met at two o'clock; but as we are happy to see the Natural History class advertised for one o'clock, this obstacle is now removed. We trust, therefore, that the teachers of anatomy will not allow any secondary or personal considerations to stand in the way. It is the opinion of some among us that our hospital visit should take place in the early morning, as in the Parisian hospitals. Much may be said on both sides of this question, which, however, is quite a separate one from that of the increase of time, and having the medical and surgical visits at separate hours. It is for the students, and for those who have the general interest of the school at heart, to see that, irrespective of the period of the day, two hours shall be kept clear for hospital visit and clinical lectures. (*Edinburgh Medical Journal*, October 1857.)

Royal Society of Edinburgh. The Royal Society of Edinburgh announces the following subjects of competition for the award of 1858-59. The Keith Prize, a gold medal and from £40 to £50 in money, will be given for the best communication on a scientific subject. Brewster, Forbes, and other distinguished natural philosophers, have been the gainers of the Keith medal on former occasions. The Macdougall Brisbane

Prize, a gold medal and money, will be awarded to the best biographical notice of an eminent Scotchman, including an estimate of the influence and importance of his writings and discoveries. The Neill Prize, a gold medal and money, will be given for the best paper on a subject of natural history, by a Scotch naturalist; or, failing any paper thus communicated, to the best work or treatise published within the five years preceding the time of award.

Sanitary Customs of the Jews. It is noticeable that in poor neighbourhoods which have been attacked by cholera, fever, small-pox, and similar diseases, the Jews living there have in an extraordinary manner escaped visitation. The apparent causes of this sanitary fact are worthy of attention. 1. As regards food, it seems that even the poorer Jews are most particular in the food they eat. In obedience to the law of Moses, they use none of the blood or offal of animals; they are also particular in the choice of fish, and avoid both animals and fowls which are grossly or unwholesomely fed. 2. Intemperance in drink is rare amongst them; and even the very poor Jews are remarkable for their attention to moral family ties. There are, of course exceptions, but this general characteristic is certain. 3. Their religion directs them to use great personal cleanliness. Ablutions are made before visiting the synagogues, and on other occasions. Their houses are also thoroughly cleaned at certain periods from top to bottom. All the above acts are important to health, and the good effect of attention to them is evident. The rules are so simple, that they might be readily observed by the chief parts of the masses of people in the large towns amongst whom this ancient race are scattered. (*The Builder.*)

Salaries of Poor-Law Medical Officers: Case of Dr. McCarthy, of Kenmare. In reference to the case of Dr. McCarthy (see Journal, p. 801) a special meeting of the Council of the Irish Medical Association was held on September 25th. Dr. Quinan, the honorary secretary, stated that he had received several communications relative to the movement made by the Cork Association for the purpose of presenting a testimonial to Dr. McCarthy, and read letters from Drs. Armstrong, Kingsley, and others, calling upon the Council to assist in carrying out this object. The following resolution was unanimously adopted:—"We, the undersigned, viewing with apprehension the principle involved in the recent reduction of the salaries of the medical officers of the Kenmare Union, are of opinion that the efficiency and stability of such institutions are imperilled by the efforts so frequently and, in this instance, successfully, made to lower the salaries of the medical officers of dispensaries. We can conceive no proceeding more harassing, vexatious, or ungrateful, to a dispensary officer than a constant menace to deprive him of his bread, or one more detrimental to the true honour or interests of the profession to which he belongs. We beg, therefore, our professional brethren to join with us in endeavouring to secure an arrangement by which £100 per annum shall be fixed as the minimum salary to be paid to each medical officer connected with Poor-law medical relief in Ireland. We further desire to record our sympathy with Dr. McCarthy of the Kenmare Dispensary, who, after thirty years faithful service, has had his salary reduced, notwithstanding that his labours have confessedly been increased by the requirements of the Poor-law Commissioners, in writing up books, making returns, etc., and at the same time to present him with a testimonial of our admiration and respect for his able and manly defence in behalf of the dispensary surgeons of Ireland, as well as of the medical profession at large." Resolved—"That every medical gentleman in this city be called upon to attach his name to the foregoing resolution, and to join in this testimonial about being presented to Dr. McCarthy." A sub-committee was then appointed to carry out the foregoing resolution.

Meetings have also been held, and resolutions passed in disapproval of such treatment as has been received by Dr. McCarthy, by the medical officers of the Dispensary Districts of the principal unions in the South of Ireland, and the County and City of Limerick Medical Protective Association. A meeting of medical men was also held at Cork on September 25th, on the subject of presenting a testimonial to Dr. McCarthy. Numerous letters were read, approving of the object; among them was one from Mr. Griffin, the Chairman of the Poor-Law Medical Reform Association in England, inclosing a subscription. The spirit which the Poor-Law medical officers, and the profession in general in Ireland, have manifested in defence of their oppressed brethren at Kenmare, is most worthy of praise and of imitation.

TO CORRESPONDENTS.

POSTAGE OF MANUSCRIPT AND PRINTED MATTER.

Any amount of manuscript or printed matter, singly or together, provided it contains nothing in the form of a letter, is transmitted through the post, in packets *open at the ends*, at the following rates: not exceeding 4 ounces, one penny; above 4 and not exceeding 8 ounces, twopence; above 8 ounces and not exceeding 1 pound, fourpence; for every additional half-pound or under, twopence.

To Contributors. The Editor would feel glad if Members of the Association and others, would cooperate with him in establishing as a rule, that in future no paper for publication shall exceed two pages of the Journal in length. If the writers of long communications knew as well as the Editor does, that lengthy papers *always* deter the reader from commencing them, this great evil would never arise. Brevity is the soul of medical writing—still more than of wit.

Anonymous Correspondents should always enclose their names to the Editor; not for publication, but in token of good faith. No attention can be paid to communications not thus authenticated.

East York and North Lincoln Branch. The Report, with Dr. Sandwith's Address, will be published next week.

Members should remember that corrections for the current week's Journal should not arrive later than Wednesday.

NOTICE.—Dr. Wynter will feel obliged if the Associates will address all Post Office Orders in payment of Subscriptions, to the Publisher, Mr. Thomas John Honeyman, 37, Great Queen Street, Lincoln's Inn Fields, London, W. C., "Bloomsbury Branch"; and he would also feel obliged by their sending all communications respecting the non-receipt of the Journal, to the same address; as both these matters are out of the province of the Editor.

Communications have been received from:—Dr. Hannotte Vernon; Dr. Herbert Barker; Dr. John R. Nicholson; Dr. J. Sloane; Dr. C. B. Garrett; Mr. D. Kent Jones; Dr. P. H. Williams; Dr. H. Sandwith; Dr. S. Palmer; Dr. Noble; Dr. Radclyffe Hall; Mr. George Rigden; Mr. E. Garraway; Dr. Mackinder; Mr. T. Holmes; Mr. G. B. Masfen; Dr. C. Handfield Jones; Dr. D. Nicol; Mr. Mitchell Henry; Dr. J. C. Hall; Dr. Fairless; Dr. Barnes; Mr. J. A. Locking; Dr. J. G. Croker; Mr. J. Craig; Mr. F. Spurrell; Dr. Bryden; Dr. A. Anderson; and Mr. T. P. M. O'Donovan.

ADVERTISEMENTS.

Testimonial to Dr. Hodgkin.—Dr. Hodgkin having expressed his desire that the proceeds of the Subscription, in place of being expended on a Portrait, as was determined at the Meeting of the Subscribers held on the 24th July, should be applied to found a Prize in connexion with the School of the Royal Benevolent College; it has been resolved by the Committee, with a view more effectually to carry out so desirable an object, to keep open the Subscription, which at present exceeds £230, until the end of November, when a final Meeting of the Subscribers will be held.

Subscriptions, no longer limited in amount, will be received by the Honorary Secretary, 40, Brook Street.

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